Analytical Data Package Prepared For

Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains _____ Pages

Report Nbr: 34705

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05107	I07-021	B1LNF5	J7A310377-1	JNPEH1AA	9JNPEH10	7039543
		B1LNF5	J7A310377-1	JNPEH1AC	9JNPEH10	7039542
	S07-012	B1LCH5	J7B020316-1	JNVW31AA	9JNVW310	7039534
		B1LCD8	J7B020316-2	JNVW71AA	9JNVW710	7039539
		B1LCD8	J7B020316-2	JNVW71AC	9JNVW710	7039534
	S07-001	B1LP81	J7B020323-1	JNV3J1AA	9JNV3J10	7039533
	WO7-001	B1LRH3	J7B020335-1	JNV3N1AA	9JNV3N10	7039532
		B1LRH3	J7B020335-1	JNV3N1AC	9JNV3N10	7039531
	S07-001	B1LP41	J7B020339-1	JNV4G1AA	9JNV4G10	7039533
		B1LP41	J7B020339-1	JNV4G1AC	9JNV4G10	7039528
		B1LNP3	J7B020339-2	JNV4K1AA	9JNV4K10	7039528
		B1LP03	J7B050132-1	JNXLQ1AA	9JNXLQ10	7039543
		B1LP09	J7B050132-2	JNXLR1AA	9JNXLR10	7039532
		B1LP09	J7B050132-2	JNXLR1AC	9JNXLR10	7039531
		B1LP09	J7B050132-2	JNXLR1AD	9JNXLR10	7039527

Comments:

Report Nbr: 34705

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05107	S07-001	B1LP09	J7B050132-2	JNXLR1AE	9JNXLR10	7039543
		B1LP09	J7B050132-2	JNXLR1AF	9JNXLR10	7039545
		B1LP09	J7B050132-2	JNXLR1AG	9JNXLR10	7039542
		B1LP09	J7B050132-2	JNXLR1AH	9JNXLR10	7039528
		B1LP14	J7B050132-3	JNXMG1AA	9JNXMG10	7039527
		B1LP14	J7B050132-3	JNXMG1AC	9JNXMG10	7039543
		B1LP14	J7B050132-3	JNXMG1AD	9JNXMG10	7039545
		B1LP14	J7B050132-3	JNXMG1AE	9JNXMG10	7039542
		B1LP14	J7B050132-3	JNXMG1AF	9JNXMG10	7039528
	S07-010	B1KPK0	J7B050153-1	JNXNQ1AA	9JNXNQ10	7039533
	S07-001	B1LP57	J7B050154-1	JNXNT1AA	9JNXNT10	7039533
		B1LP58	J7B050154-2	JNXN01AA	9JNXN010	7039533
		B1LPF9	J7B050154-3	JNXN21AA	9JNXN210	7039533
		B1LPF9	J7B050154-3	JNXN21AC	9JNXN210	7039543
		B1LPD1	J7B050154-4	JNXN31AA	9JNXN310	7039533
		B1LP93	J7B050158-1	JNXPG1AA	9JNXPG10	7039533
		B1LP93	J7B050158-1	JNXPG1AC	9JNXPG10	7039543
		B1LP84	J7B050158-2	JNXPQ1AA	9JNXPQ10	7039533
		B1LP84	J7B050158-2	JNXPQ1AC	9JNXPQ10	7039543
		B1LP66	J7B050158-3	JNXPW1AA	9JNXPW10	7039533
		B1LP66	J7B050158-3	JNXPW1AC	9JNXPW10	7039543
	S07-012	B1LC48	J7B050162-1	JNXRL1AA	9JNXRL10	7039543
	S07-001	B1LPC1	J7B050163-1	JNXR01AA	9JNXR010	7039533
		B1LPC1	J7B050163-1	JNXR01AC	9JNXR010	7039543



STL Richland

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Certificate of Analysis

Pacific Northwest National Laboratories Sigma V Building Richland, WA 99352

March 19, 2007

Attention: Dot Stewart

SAF Number : W07-001, S07-001, S07-012, S07-010, I07-021

Date SDG Closed : February 2, 2007 Number of Samples : Twenty (20)

Sample Type : Water SDG Number : W05107

Data Deliverable : 45-Day / Summary

CASE NARRATIVE

I. Introduction

Between January 30, 2007 and January 31, 2007, twenty water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Pacific Northwest National Laboratories (PGW) specific IDs:

PGW ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1LNF5	JNPEH	WATER	1/31/07
B1LCH5	JNVW3	WATER	2/1/07
B1LCD8	JNVW7	WATER	2/1/07
B1LP81	JNV3J	WATER	2/1/07
B1LRH3	JNV3N	WATER	2/1/07
B1LP41	JNV4G	WATER	2/1/07
B1LNP3	JNV4R	WATER	2/1/07
B1LP03	JNXL9	WATER	2/1/07
B1LP09	JNXLR	WATER	2/1/07
B1LP14	JNXMG	WATER	2/1/07
B1KPK0	JNXNQ	WATER	2/1/07
B1LP57	JNXNT	WATER	2/2/07
B1LP58	JNXN0	WATER	2/2/07

B1LPF9	JNXN2	WATER	2/2/07	
B1LPD1	JNXN3	WATER	2/2/07	
B1LP93	JNXPG	WATER	2/2/07	
B1LP84	JNXPG	WATER	2/2/07	
B1LP66	JNXPW	WATER	2/2/07	
B1LC48	JNXRL	WATER	2/2/07	
B1LPC1	JNXR0	WATER	2/2/07	

II. Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in. Sample B1LHB1 had a coliform requested on it. It was missed in sample receiving and not given to the analyst before the holding time was up.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Alpha Spectroscopy

Plutonium-238, -239/240 by method RICH-RC-5010 Uranium 234, 235 and 238 by method RICH-RC-5039

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014 Gross Beta by method RICH-RC-5014 Strontium-90 by method RICH-RC-5006

Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017 Iodine-129 (LL) by method RICH-RC-5025

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065

Tritium by method RICH-RC-5007

Laser Induced Phosphorimetry

Total Uranium by method RICH-RC-5058

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Alpha Spectroscopy

Plutonium-238, -239/240 by method RICH-RC-5010

The LCS, batch blank, samples and sample duplicate (B1LP14) results are within contractual requirements.

Uranium 234, 235 and 238 by method RICH-RC-5039

The LCS, batch blank, samples and sample duplicate (B1LCD8) results are within contractual requirements.

Gas Proportional Counting

Gross Alpha by method RICH-RC-5014:

There was an obvious blank LCS switch. The error was corrected in RadCalc. Except as noted, the LCS, batch blank, samples and sample duplicate (B1LRH3) results are within contractual requirements.

Gross Beta by method RICH-RC-5014:

The LCS, batch blank, samples and sample duplicate (B1LP09) results are within contractual requirements.

Strontium-90 by method RICH-RC-5006

The LCS, batch blank, samples and sample duplicate (B1LP09) results are within contractual requirements.

Gamma Spectroscopy

Gamma Spec (LL) by method RICH-RC-5017:

The LCS, batch blank, samples and sample duplicate (B1LP09) results are within contractual requirements.

Iodine-129 (LL) by method RICH-RC-5025:

In the original analysis the LCS had a low recovery. It was recounted with good results. Except as noted, the LCS, batch blank, samples and sample duplicate (B1LC48) results are within contractual requirements.

Liquid Scintillation Counting

Technetium-99 by TEVA method RICH-RC-5065:

The LCS, batch blank, samples, sample duplicate (B1LP14), and sample matrix spike (B1LP09) results are within contractual requirements.

Pacific Northwest National Laboratories March 19, 2007

Tritium by method RICH-RC-5007:

The LCS, batch blank, samples and sample duplicate (B1LPC1) results are within contractual requirements.

Total Uranium

Total Uranium by method RICH-RC-5058:

The LCS, batch blank, samples, sample duplicate (B1LCD8), and sample matrix spike (B1LCH5) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Sherryl A. Adam Project Manager

Drinking Water Method Cross References

	DRINKING WATER	R ASTM METHOD CROSS REFERENCES
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-24	11 (unless otherwise	specified in the case narrative)
The Gross Beta LCS is prepared with Sr/Y-90	(unless otherwise s	pecified in the case narrative)

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, R = constants * f(x,y,z,...). The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/vn), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Action Lev Level. Often the Action Level is related to the Decision Limit. Batch The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together. Bias Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30. COC No Chain of Custody Number assigned by the Client or STL Richland. Count Error (#s) Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background. Total Uncert (#s) All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure u_c - Combined of the uncertainty associated with the result, u_c the combined uncertainty. The uncertainty is absolute and in the Uncertainty. same units as the result. (#s), Coverage The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. Factor CRDL (RL) Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL) Lc Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * $Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin))*(ConvFct/(Eff*Yld*Abn*Vol)*IngrFct). \ For LSC \ methods \ the analysis of the convergence of the conv$ batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. Lot-Sample No The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot. MDC|MDA Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 *Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. **Primary Detector** The instrument identifier associated with the analysis of the sample aliquot. Ratio U-234/U-238 The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038. Rst/MDC Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. Rst/TotUcert Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. Report DB No Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number. RER The equation Replicate Error Ratio = $(S-D)/[sqrt(TPUs^2 + TPUd^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample. SDG Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt. Sum Rpt Alpha The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where Spec Rst(s) the results are in the same units. Work Order The LIMS software assign test specific identifier. Yield The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

3/19/2007 9:07:35 AM

STL Richland Report

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Lab Code: STLRL

FormNb	r: R	FormatType:	FEAD Vers	ion: 05	Rpt N	br: 34705		File Name:	h:\Reportdb\	edd\FeadIV\Rad\W051	07.Edd, h:\Rep	ortdb\ea	dd\FeadIV\Rad\34705.E	≣dđ
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF NE	Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume				llection Date:	
9JNPEH10			MW6-SBB-A1		W05107							01/31/	2007 09:38	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua		TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7039543	I-129L	15046-84-1	3.24E-03	pCi/L	1.4E-01	1.4E-01	U	2.58E-0		I129LL_SEP_LEPS			02/26/2007 16:31	
7039542	SR-90	10098-97-2	1.48E-02	pCi/L	1.0E-01	2.4E-01	U	5.19E-0	1 85.7	SRISO_SEP_PRE	1.0006E+00	L	02/28/2007 06:50)
Lab Sample Id: 9JNV3J10	Client Id: B1LP81	Test User	Contract Nbr	SAF Nb	or Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume				llection Date:	
		CAC#	MW6-SBB-A1										2007 10:49	_
Batch 7039533	Analyte H-3	CAS# 10028-17-8	Result 4.89E+04		CntU 2S 7.2E+02	TotU 2S 2.0E+03	Qua	MDA 3.03E+0	TrcYield 2 100.0	Method 906.0_H3_LSC	Alq Size 5.00E-03	Unit L	Analy Date/Time 02/22/2007 01:48	Act
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF N	or Sdg Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume				llection Date:	
9JNV3N10	B1LRH3		MW6-SBB-A1	WO7-00	1 W05107	7						02/01/	2007 12:16	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua	I MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7039532	ALPHA	12587-46-1	1.94E+00	pCi/L	1.2E+00	1.2E+00		1.30E+0	0 100.0	9310_ALPHABETA	2.004E-01	L	02/26/2007 20:04	4 I
7039531	BETA	12587-47-2	7.36E+00	pCi/L	1.8E+00	2.0E+00		2.95E+0	0 100.0	9310_ALPHABETA	2.014E-01	L	02/26/2007 20:25	5 1
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nb	or Sdg Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Addition to the second		llection Date:	
9JNV4G10	B1LP41		MW6-SBB-A1	S07-001	W05107	,						02/01/2	2007 10:11	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua		TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
7039533	H-3	10028-17-8	7.41E+03	pCi/L	3.0E+02			3.04E+0		906.0_H3_LSC	5.00E-03	L	02/22/2007 03:10) [
7039528	TC-99	14133-76-7	1.59E+02	pCi/L	7.9E+00	1.7E+01		9.86E+0	0 100.0	TC99_ETVDSK_LS	1.254E-01	L	02/20/2007 10:37	'
Lab Sample Id: 9JNV4K10	Client Id: B1LNP3	Test User	Contract Nbr MW6-SBB-A1	SAF N b	or Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		l	llection Date: 2007 10:57	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua	I MDA	TrcYield	Method	Ala Cias			A - 4
7039528	TC-99	14133-76-7	4.21E+00	pCi/L	4.3E+00	6.4E+00	U	9.99E+0		TC99_ETVDSK_LS	Alq Size 1.245E-01	Unit L	Analy Date/Time 02/20/2007 10:37	Act
Lab Sample Id: 9JNVW310	Client Id:	Test User	Contract Nbr	SAF Nb	Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date:	
		040#	MW6-SBB-A1		W05107		~						2007 12:52	_
Batch 7039534	Analyte Uranium	CAS# 7440-61-1	Result 1.11E+02	U nit ug/L	CntU 2S 1.4E+01	TotU 2S 1.4E+01	Qua	M DA 7.88E-02	TrcYield 2	Method UTOT_KPA	Alq Size 2.66E-02	Unit ML	Analy Date/Time 02/28/2007 16:38	Act
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nb	or Sdg Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:			llection Date:	
STL Richlar	nd	O THE STATE OF THE	U Oual -	Analyzed	for, but th					a scan did not ident	tify the nucli			

rptFeadRadSummaryEdd v3.48

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

3/19/200	7 9:07:35 AM	<u>.</u>			\mathbf{S}	ΓL Ricl	nlan	d Repor	rt			L	ab Code: STLRL		
FormNb	r: R	FormatType: F	EAD Versi	on: 05	Rpt N	br: 34705		File Name:	h:\Reportdb\	edd\FeadIV\Rad\W051	07.Edd, h:\Rep	ortdb\ed	d\FeadIV\Rad\3470)5.Ed	bt
9JNVW710	B1LCD8		MW6-SBB-A1	S07-012	W05107	7						02/01/2	007 12:04		
Batch 7039539	Analyte U-234	CAS# 13966-29-5	Result 2.72E+01	Unit pCi/L	CntU 2S 2.0E+00	TotU 2S 5.0E+00	Qual	MDA 1.70E-01	TrcYield 92.3	Method UISO_PLATE_AEA	Alq Size 2.015E-01	Unit L	Analy Date/Time 02/23/2007 18		Act I
7039539	U-235	15117-96-1	9.92E-01	pCi/L	3.8E-01	4.1E-01		1.70E-01	92.3	UISO_PLATE_AEA	2.015E-01	L	02/23/2007 18	:55	ı
7039539	U-238	U-238	2.56E+01	pCi/L	1.9E+00	4.7E+00		1.70E-01	92.3	UISO_PLATE_AEA	2.015E-01	L	02/23/2007 18	:55	I
7039534	Uranium	7440-61-1	7.02E+01	ug/L	8.5E+00	8.5E+00		8.25E-02	2	UTOT_KPA	2.54E-02	ML	02/28/2007 16	:49	I
Lab Sample Id: 9JNXLQ10	Client Id:	Test User	Contract Nbr MW6-SBB-A1	SAF Nt	or Sdg Nbr: W05107			Moisture/ Solids%*:	Distilled Volume				ection Pate: 007 12:16		
Batch 7039543	Analyte I-129L	CAS# 15046-84-1	Result 4.51E-02	Unit pCi/L	CntU 2S 1.2E-01	TotU 2S 1.2E-01	Qual U	MDA 2.32E-01	TrcYield 99.5	Method I129LL_SEP_LEPS	Alq Size 3.8987E+00	Unit	Analy Date/Time 02/26/2007 16		Act
Lab Sample Id: 9JNXLR10	Client Id: B1LP09	Test User	Contract Nbr MW6-SBB-A1	SAF N t S07-001	or Sdg Nbr: W05107			Moisture/ Solids%*:	Distilled Volume	•		0	ection Pate: 007 09:01		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alg Size	Unit	Analy Date/Time	<u> </u>	Act
7039532	ALPHA	12587-46-1	4.24E+00	pCi/L	1.9E+00	2.2E+00		1.74E+00	0 100.0	9310_ALPHABETA	2.034E-01	L	02/26/2007 20		I
7039531	BETA	12587-47-2	3.84E+01	pCi/L	3.1E+00	5.8E+00		2.80E+00	0 100.0	9310_ALPHABETA	2.001E-01	L	02/26/2007 20	:25	I
7039527	BE-7	13966-02-4	9.03E+00	pCi/L	2.2E+01	2.2E+01	U	4.27E+0	1	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	I
7039527	CO-60	10198-40-0	1.78E+00	pCi/L	2.5E+00	2.5E+00	U	5.64E+0	0	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	1
7039527	CS-134	13967-70-9	-1.30E-01	pCi/L	2.5E+00	2.5E+00	U	4.68E+00	0	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	I
7039527	CS-137	10045-97-3	8.68E-01	pCi/L	2.4E+00	2.4E+00	U	4.65E+00	0	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	1
7039527	EU-152	14683-23-9	-2.13E+00	pCi/L	6.1E+00	6.1E+00	U	1.07E+0	1	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	1
7039527	EU-154	15585-10-1	-2.64E+00	pCi/L	7.9E+00	7.9E+00	U	1.44E+0	1	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	1
7039527	EU-155	14391-16-3	-2.45E+00	pCi/L	4.7E+00	4.7E+00	U	7.92E+0	0	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	1
7039527	K-40	13966-00-2	-1.08E+00	pCi/L	4.8E+01	4.8E+01	U	1.10E+0	2	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	I
7039527	RU-106	13967-48-1	-1.48E+01	pCi/L	2.3E+01	2.3E+01	U	3.85E+0	1	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	I
7039527	SB-125	14234-35-6	3.73E+00	pCi/L	5.1E+00	5.1E+00	U	1.02E+0	1	GAMMALL_GS	1.9562E+00	L	02/22/2007 08	:43	1
7039543	I-129L	15046-84-1	1.38E+00	pCi/L	3.5E-01	3.5E-01		2.57E-01	91.6	I129LL_SEP_LEPS	3.9082E+00	L	02/26/2007 18	:17	1
7039545	PU-238	13981-16-3	5.07E-02	pCi/L	1.8E-01	1.8E-01	U	4.77E-01	38.6	PUISO_PLATE_AE	1.997E-01	L	02/20/2007 18	:39	1
7039545	PU-239	PU-239/240	8.44E-02	pCi/L	1.7E-01	1.7E-01	U	4.04E-01	38.6	PUISO_PLATE_AE	1.997E-01	L	02/20/2007 18	:39	1
7039542	SR-90	10098-97-2	-2.94E-02	pCi/L	2.1E-01	2.1E-01	U	4.60E-01	97.1	SRISO_SEP_PRE	1.008E+00	L	02/28/2007 06	:50	1
7039528	TC-99	14133-76-7	1.04E+02	pCi/L	6.9E+00	1.3E+01		9.85E+0	0 100.0	TC99 ETVDSK LS	1.253E-01	L	02/20/2007 10	:37	1

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

STL Richland Report 3/19/2007 9:07:35 AM Lab Code: STLRL

FormNbr	r: R	FormatType: F	EAD Versio	on: 05	Rpt N	br: 34705		File Name: h	:\Reportdb\e	edd\FeadIV\Rad\W051	07.Edd, h:\Rep	ortdb\edd	d\FeadIV\Rad\347	05.Edd
Lab Sample Id: 9JNXMG10	Client Id: B1LP14	Test User	Contract Nbr MW6-SBB-A1	SAF Nb i	r Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		D	ection Pate: 007 10:15	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua	I MDA 1	rcYield	Method	Alq Size	Unit	Analy Date/Tim	e Act
7039527	BE-7	13966-02-4	-2.87E+00	pCi/L	1.7E+01	1.7E+01	U	3.14E+01		GAMMALL_GS	2.0077E+00	L	02/22/2007 08	3:48 I
7039527	CO-60	10198-40-0	-5.98E-01	pCi/L	1.6E+00	1.6E+00	U	2.93E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	CS-134	13967-70-9	1.06E+00	pCi/L	2.2E+00	2.2E+00	U	4.41E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	CS-137	10045-97-3	1.12E+01	pCi/L	4.5E+00	4.5E+00		3.05E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	EU-152	14683-23-9	-4.57E+00	pCi/L	5.0E+00	5.0E+00	U	8.04E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	EU-154	15585-10-1	-2.70E-01	pCi/L	4.7E+00	4.7E+00	U	9.45E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 08	3:48 I
7039527	EU-155	14391-16-3	6.94E-01	pCi/L	3.3E+00	3.3E+00	U	6.07E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	K-40	13966-00-2	1.39E+01	pCi/L	3.0E+01	3.0E+01	U	6.86E+01		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	RU-106	13967-48-1	-2.14E+01	pCi/L	1.8E+01	1.8E+01	U	2.71E+01		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039527	SB-125	14234-35-6	-3.55E+00	pCi/L	4.7E+00	4.7E+00	U	7.65E+00		GAMMALL_GS	2.0077E+00	L	02/22/2007 0	3:48 I
7039543	I-129L	15046-84-1	7.75E-01	pCi/L	2.8E-01	2.8E-01	U	4.18E-01	98.4	I129LL_SEP_LEPS	3.9258E+00	L	02/26/2007 18	3:18 I
7039545	PU-238	13981-16-3	0.00E+00	pCi/L	9.7E-02	9.7E-02	U	2.28E-01	68.0	PUISO_PLATE_AE	2.036E-01	L	02/20/2007 18	3:39 I
7039545	PU-239	PU-239/240	2.85E-02	pCi/L	9.9E-02	9.9E-02	U	2.69E-01	68.0	PUISO_PLATE_AE	2.036E-01	L	02/20/2007 18	3:39 I
7039542	SR-90	10098-97-2	5.47E-02	pCi/L	1.9E-01	2.1E-01	U	4.46E-01	93.0	SRISO_SEP_PRE	1.0065E+00	L	02/28/2007 0	6:51 I
7039528	TC-99	14133-76-7	2.13E+02	pCi/L	8.9E+00	2.0E+01		9.84E+00	100.0	TC99_ETVDSK_LS	1.257E-01	L	02/20/2007 10	D:37 I
Lab Sample Id: 9JNXN010	Client Id: B1LP58	Test User	Contract Nbr MW6-SBB-A1	SAF Nb	r Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		D	ection Date: 007 08:59	
Batch	Analyte	CAS#	Result		CntU 2S	TotU 2S	Qua	I MDA 1	rcYield	Method	Alq Size	Unit	Analy Date/Tim	e Act
7039533	H-3	10028-17-8	-2.46E+01	pCi/L	1.2E+02	1.4E+02	U	3.02E+02	100.0	906.0_H3_LSC	5.00E-03	L	02/22/2007 0	
Lab Sample Id: 9JNXN210	Client Id: B1LPF9	Test User	Contract Nbr MW6-SBB-A1	SAF Nb	r Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	MANA ordela	D	ection Date: 007 09:53	
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qua	I MDA 7	rcYield	Method	Alq Size	Unit	Analy Date/Tim	e Act
7039533	H-3	10028-17-8	2.85E+03		2.1E+02	2.6E+02		3.03E+02	100.0	906.0_H3_LSC	5.00E-03	L	02/22/2007 08	
7039543	l-129L	15046-84-1	1.78E-01	pCi/L	1.2E-01	1.2E-01	U	2.66E-01	99.5	I129LL_SEP_LEPS	3.9046E+00	L	02/26/2007 18	3:18 I
Lab Sample Id: 9JNXN310	Client Id: B1LPD1	Test User	Contract Nbr MW6-SBB-A1	SAF Nb S07-001	r Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		D	ection Date: 007 12:07	

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

3/19/200	7 9:07:35 AM				\mathbf{S}	TL Rich	ılan	d Repor	rt			I	Lab Code: STLRL	
FormNb	r: R	FormatType: F	EAD Versi	ion: 05	Rpt N	br: 34705		File Name:	h:\Reportdb\e	edd\FeadIV\Rad\W051	07.Edd, h:\Rep	ortdb\ed	d\FeadIV\Rad\34705.E	dd
Batch 7039533	Analyte H-3	CAS # 10028-17-8	Result -1.94E+01	Unit pCi/L	CntU 2S 1.2E+02	TotU 2S 1.4E+02	Qual U	MDA 3.04E+02	TrcYield 2 100.0	Method 906.0_H3_LSC	Alq Size 5.00E-03	Unit L	Analy Date/Time 02/22/2007 09:59	Act
Lab Sample Id: 9JNXNQ10	Client Id: B1KPK0	Test User	Contract Nbr MW6-SBB-A1	SAF N b	Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		[lection Date: 2007 09:23	
Batch 7039533	Analyte H-3	CAS# 10028-17-8	Result -1.08E+02	Unit pCi/L	CntU 2S 1.2E+02	TotU 2S 1.4É+02	Qual U	MDA 3.04E+02	TrcYield 2 100.0	Method 906.0_H3_LSC	Alq Size 5.00E-03	Unit L	Analy Date/Time 02/22/2007 04:32	Act
Lab Sample Id: 9JNXNT10	Client Id: B1LP57	Test User	Contract Nbr MW6-SBB-A1	SAF N E S07-001	or Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	A culde a co		lection Date: 2007 08:59	
Batch 7039533	Analyte H-3	CAS# 10028-17-8	Result -2.39E+01	Unit pCi/L	CntU 2S 1.2E+02	TotU 2S 1.4E+02	Qual U	MDA 3.02E+02	TrcYield 2 100.0	Method 906.0_H3_LSC	Alq Size 5.00E-03	Unit L	Analy Date/Time 02/22/2007 05:53	Act
Lab Sample Id: 9JNXPG10	Client Id: B1LP93	Test User	Contract Nbr MW6-SBB-A1	SAF N b	or Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		[lection Date: 2007 08:46	
Batch 7039533 7039543	Analyte H-3 I-129L	CAS# 10028-17-8 15046-84-1	Result 8.71E+04 1.22E-01	Unit pCi/L pCi/L	CntU 2S 9.5E+02 1.7E-01	TotU 2S 3.4E+03 1.7E-01	Qual U	MDA 3.04E+02 3.33E-01		Method 906.0_H3_LSC I129LL_SEP_LEPS	Alq Size 5.00E-03 3.8771E+00	Unit L L	Analy Date/Time 02/22/2007 11:20 02/26/2007 20:02	
Lab Sample Id: 9JNXPQ10	Client Id: B1LP84	Test User	Contract Nbr MW6-SBB-A1	SAF N t S07-001	or Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		[lection Date: 2007 09:57	
Batch 7039533 7039543	Analyte H-3 I-129L	CAS# 10028-17-8 15046-84-1	Result 8.11E+04 1.73E+00	Unit pCi/L pCi/L	CntU 2S 9.2E+02 4.5E-01	TotU 2S 3.2E+03 4.5E-01	Qual	MDA 3.02E+0 2.66E-01		Method 906.0_H3_LSC I129LL_SEP_LEPS	Alq Size 5.00E-03 3.8513E+00	Unit L L	Analy Date/Time 02/22/2007 12:42 02/26/2007 20:03	
Lab Sample Id: 9JNXPW10	Client Id: B1LP66	Test User	Contract Nbr MW6-SBB-A1	SAF N t S07-001	or Sdg Nbr: W05107	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:		[lection Date: 2007 10:38	
Batch 7039533 7039543	Analyte H-3 I-129L	CAS# 10028-17-8 15046-84-1	Result 6.27E+04 3.17E+00	Unit pCi/L pCi/L	CntU 2S 8.1E+02 5.1E-01	TotU 2S 2.5E+03 5.1E-01	Qual	MDA 3.03E+0 3.03E-01		Method 906.0_H3_LSC I129LL_SEP_LEPS	Alq Size 5.00E-03 3.8722E+00	Unit L L	Analy Date/Time 02/22/2007 18:09 02/26/2007 20:03	
Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF N	or Sdg Nbr:	QC Type		Moisture/ Solids%*:	Distilled Volume	Sample On Date:	1. 1999-04-04-04-04-04-04-04-04-04-04-04-04-04-		lection Date:	

 Batch
 Analyte
 CAS#

 7039533
 H-3
 10028-17-8

MW6-SBB-A1 S07-001

Result

W05107

Unit CntU 2S TotU 2S

9JNXR010 B1LPC1

STL Richland

4.83E+04 pCi/L 7.1E+02 2.0E+03 3.03E+02 100.0 906.0 H3 LSC 5.00E-03 U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

MDA

TrcYield

Method

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual- Analyte was found in the associated laboratory blank above the MDC.

Qual

rptFeadRadSummaryEdd v3.48

Act

02/02/2007 10:02

Analy Date/Time

02/22/2007 19:31

Unit

Alq Size

3/19/200	7 9:07:36 A	M		SI	TL Rich	ılan	d Repo	rt			I	ab Code: STLRL		
FormNb	r: R	FormatType: f	EAD Vers	ion: 05	Rpt Ni	br: 34705		File Name:	h:\Reportdb\	edd\FeadIV\Rad\W0510	07.Edd, h:\Rep	ortdb\ed	d\FeadIV\Rad\34705.E	Edd
7039543	I-129L	15046-84-1	2.53E+00	pCi/L	5.0E-01	5.0E-01		2.73E-01	97.6	I129LL_SEP_LEPS	3.9351E+00	L	02/26/2007 22:27	7
Lab Sample Id: 9JNXRL10	Client Id: B1LC48	Test User	Contract Nbr	SAF Nb	Nbr:	QC Type	-	Moisture/ Solids%*:	Distilled Volume			Ι	lection Date:	
Batch	Analyte	CAS#	MW6-SBB-A1 Result		W05107 CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Ala Size	02/02/2 Unit	2007 11:52 Analy Date/Time	Act
7039543	I-129L	15046-84-1	4.55E-02	pCi/L	1.3E-01	1.3E-01	U	2.59E-01		I129LL SEP LEPS		L	02/26/2007 22:25	

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id: JN6D21AB **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 09:01

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BLK Received Date: 02/01/2007

SAF Nbr Contract Nbr **Test User** Case Nbr SAS Nbr Suffix Decant **Distilled Volume** File Id FSuffix RTyp MW6-SBB-A19981 ΑU Н Batch # / Analyt/ Result/ Tot/Cnt Spk Conc/ Qu-Tracer Analy Aliq Date/Time RPD/ RER/ LCS R Qc Type CAS# Orig Rst Unit Uncert 2S MDC Yield %Rec Method LCL/UCL Typ al Size/ Analyzed UCL UCL 7039528 TC-99 -1.49E-01 pCi/L 6.1E+00 9.89E+00 100.0 TC99_ETVDSK 1.261E-01 02/20/2007 D BLK 14133-76-7 4.1E+00 10:37

1

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6D61AB

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: **BLK**

Received Date:

02/01/2007

SAF Nbr **Contract Nbr Test User** SAS Nbr Suffix Case Nbr Distilled Volume FSuffix RTyp Decant File Id MW6-SBB-A19981 ΑW Н Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ LCS

CAS# Qc Type 7039531 BETA

Orig Rst 8.76E-01

Unit Uncert 2S pCi/L 1.2E+00

al

MDC Yield 2.49E+00 100.0

%Rec

Method Size/ 9310 ALPHAB 2.016E-01

Analyzed 02/26/2007

UCL

UCL

LCL/UCL Typ D

20:25

BLK 12587-47-2 1.2E+00

L

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6DR1AB

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

NA

Matrix:

WATER WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

BLK

Received Da

Received Date: 02/01/2007

SAF		ontract Nbr /6-SBB-A19981	Т	est User	Case	Nbr SA	S Nbr	Suffix	Decant D	istilled Volume	File	e Id		FSuffix AY	RTyp Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	R CL Typ
7039527	BE-7	-9.14E+00	pCi/L	2.0E+01	U	3.45E+01			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	13966-02-4			2.0E+01						L	08:49				
7039527	CO-60	-1.36E+00	pCi/L	2.8E+00	U	4.77E+00			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	10198-40-0			2.8E+00						L	08:49				
7039527	CS-134	-1.62E+00	pCi/L	2.4E+00	U	4.05E+00			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	13967-70-9			2.4E+00						L	08:49				
7039527	CS-137	4.62E-01	pCi/L	2.4E+00	U	4.58E+00			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	10045-97-3			2.4E+00						L	08:49				
7039527	EU-152	-9.56E-01	pCi/L	5.6E+00	U	1.00E+01			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	14683-23-9			5.6E+00						L	08:49				
7039527	EU-154	1.29E+00	pCi/L	6.6E+00	U	1.35E+01			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	15585-10-1			6.6E+00						L	08:49				
7039527	EU-155	1.33E+00	pCi/L	5.1E+00	U	9.43E+00			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	14391-16-3			5.1E+00						L	08:49				
7039527	K-40	-3.81E+01	pCi/L	5.4E+01	U	1.21E+02			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	13966-00-2			5.4E+01						L	08:49				
7039527	RU-106	-1.57E+01	pCi/L	2.1E+01	U	3.32E+01			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	13967-48-1			2.1E+01						L	08:49				
7039527	SB-125	3.61E+00	pCi/L	5.8E+00	U	1.11E+01			GAMMALL_GS	1.995E+00	02/22/2007				D
BLK	14234-35-6			5.8E+00						L	08:49				

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JN6E81AB **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 12:04

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BLK Received Date: 02/01/2007

								_				· · · · ·			
SAF		Contract Nbr W6-SBB-A19981	7	Test User	Case	Nbr S	SAS Nbr	Suffix	Decant	Distilled Volume	e File	e Id		FSuffix R BA	Тур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCI	R - Typ
7039539 BLK	U-234 13966-29-5	2.93E-02	pCi/L	7.5E-02 7.5E-02	U	1.76E-01	89.4		UISO_PLATE	_ 2.012E-01 L	02/23/2007 22:47				D
7039539 BLK	U-235 15117-96-1	3.67E-02	pCi/L	7.5E-02 7.5E-02	U	1.76E-01	89.4		UISO_PLATE	_ 2.012E-01 L	02/23/2007 22:47				D
7039539 BLK	U-238 U-238	0.00E+00	pCi/L	7.5E-02 7.5E-02	U	1.76E-01	89.4		UISO_PLATE	_ 2.012E-01 L	02/23/2007 22:47				D

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

JN6EA1AB Lab Sample Id: Sdg/Rept Nbr: W05107 34705 Collection Date: 02/01/2007 12:16

WATER Client Id: NA Matrix: **WATER** Sample On Date:

Moisture/Solids%*: QC Type: BLK Received Date: 02/01/2007

SAF Nbr Contract Nbr **Test User** Case Nbr SAS Nbr Suffix Decant **Distilled Volume** FSuffix RTyp File Id MW6-SBB-A19981 BC Н Batch #/ Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time LCS RPD/ RER/

R CAS# Qc Type Orig Rst Unit Uncert 2S al MDC Yield %Rec Method Size/ Analyzed UCL UCL LCL/UCL Typ 7039532 ALPHA 5.15E-02 pCi/L 3.0E-01 8.65E-01 100.0 9310_ALPHAB 1.993E-01 02/26/2007 D

BLK 12587-46-1 3.0E-01 21:12 L

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JN6ED1AB **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/02/2007 10:02

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BLK Received Date: 02/02/2007

Contract Nbr **Test User** Suffix SAF Nbr Case Nbr SAS Nbr **Distilled Volume** Decant File Id FSuffix RTyp MW6-SBB-A19981 ΒE Η Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RER/ LCS RPD/ Qc Type CAS# **Orig Rst** Unit Uncert 2S al MDC Yield %Rec Method Size/ UCL UCL LCL/UCL Typ Analyzed 7039533 H-3 6.97E+01 pCi/L 1.4E+02 3.04E+02 100.0 906.0_H3_LSC 5.00E-03 02/21/2007 D BLK 10028-17-8 1.3E+02 L 23:04

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\V05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd Lab Sample Id: JN6ED1DX Sdg/Rept Nbr: W05107 Collection Date: 34705 02/02/2007 10:02 Client Id: NA Matrix: **WATER** WATER Sample On Date: Moisture/Solids%*: QC Type: BLK **Received Date:** 02/02/2007 SAF Nbr Contract Nbr **Test User** Case Nbr SAS Nbr Suffix Decant Distilled Volume FSuffix RTyp File Id MW6-SBB-A19981 BG Н Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ LCS R CAS# **Orig Rst** MDC Method Qc Type Unit Uncert 2S al Yield %Rec Size/ Analyzed UCL UCL LCL/UCL Typ

906.0 H3 LSC 5.00E-03

L

02/22/2007

15:25

3.05E+02 100.0

7039533 H-3

10028-17-8

BLK

3.38E+01

pCi/L 1.4E+02

1.3E+02

D

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JN6EX1AB **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 12:52

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BLK Received Date: 02/01/2007

SAF Nbr Contract Nbr **Test User** Case Nbr SAS Nbr Suffix Decant **Distilled Volume** File Id FSuffix RTyp MW6-SBB-A19981 ВΙ Н Batch # / Analyt/ Result/ Tot/Cnt Qu-Spk Conc/ Tracer Analy Aliq Date/Time RPD/ RER/ LCS R

Qc Type CAS# **Orig Rst** Uncert 2S MDC Yield %Rec LCL/UCL Typ Unit al Method Size/ UCL UCL Analyzed 7039534 Uranium 0.00E+00 ug/L 0.0E+00 2.10E-01 UTOT KPA 2.50E-02 02/28/2007 D

BLK 7440-61-1 0.0E+00 ML 16:31

STL Richland QC Blank Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6FA1AB

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

NA

WATER

WATER

Sample On Date:

Moisture/Solids%*:

Matrix: QC Type:

BLK

Received Date:

02/01/2007

SAF Nbr

Contract Nbr MW6-SBB-A19981 **Test User** Case Nbr SAS Nbr

Suffix

Decant **Distilled Volume** File Id

FSuffix RTyp BL

Batch # / Qc Type

BLK

Analyt/ CAS# 7039542 SR-90

10098-97-2

Result/ Orig Rst 7.41E-02

Tot/Cnt Unit Uncert 2S pCi/L 2.3E-01 1.8E-01

Qu-MDC al 4.95E-01

Tracer Yield 87.3

Spk Conc/ %Rec

Analy Method SRISO SEP P

Aliq Size/ 1.0005E+00 02/28/2007

Date/Time Analyzed UCL

RPD/ RER/ UCL

LCS LCL/UCL Typ

Н

D

06:51 L

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL). B Qual- Analyte was found in the associated laboratory blank above the MDC.

9

Lab Code: STLRL Monday, March 19, 2007 STL Richland QC Blank Report FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd Lab Sample Id: JN6FC1AB Sdg/Rept Nbr: W05107 34705 Collection Date: 02/02/2007 11:52 Client Id: NA Matrix: WATER **WATER** Sample On Date: Moisture/Solids%*: QC Type: **BLK** Received Date: 02/02/2007 SAF Nbr Contract Nbr **Test User** Case Nbr SAS Nbr Suffix Decant **Distilled Volume** File Id FSuffix RTyp MW6-SBB-A19981 ΒN Η Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ LCS MDC Qc Type CAS# Orig Rst Unit Uncert 2S al Yield %Rec Method Size/ Analyzed UCL UCL LCL/UCL Typ 7039543 I-129L 9.71E-03 2.09E-01 96.2 I129LL_SEP_L 3.997E+00 pCi/L 1.1E-01 02/27/2007 D

L

05:14

BLK

15046-84-1

1.1E-01

Monday, March 19, 2007 STL Richland QC Blank Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id: JN6FE1AB **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 10:15

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BLK Received Date: 02/01/2007

SAF		ontract Nbr /6-SBB-A19981		est User	Case	e Nbr SAS Nbr		Suffix	Decant i	Distilled Volume	File Id		FSuffix RTyp BQ H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Sìze/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
7039545	PU-238	0.00E+00	pCi/L	1.2E-01	U	2.77E-01	59.6		PUISO_PLATE	2.002E-01	02/20/2007			ŀ	D
BLK	13981-16-3			1.2E-01						L	18:40				
7039545	PU-239	-1.16E-02	pCi/L	1.2E-01	U	2.77E-01	59.6		PUISO_PLATE	E 2.002E-01	02/20/2007			l	D
BLK	PU-239/240			1.2E-01						L	18:40				

STL Richland QC Control Sample Report

WATER

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6D21CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

NA

Matrix:

WATER

Sample On Date:

Moisture/Solids%*:

CAS#

QC Type: BS

SAS Nbr

Decant

Received Date: 02/01/2007

SAF Nbr

Contract Nbr Test User MW6-SBB-A19981

Case Nbr

Suffix

Distilled Volume

File Id

FSuffix RTyp A۷

Н

Batch # / Analyt/

Qc Type

Result/ Orig Rst 5.15E+02

Tot/Cnt Unit Uncert 2S pCi/L 4.1E+01

Qual

Tracer MDC Yield 9.79E+00 100.0

Spk Conc/ %Rec 5.41E+02

Analy Method TC99 ETVDSK 1.261E-01

Aliq Size/

Date/Time Analyzed UCL 02/20/2007

RPD/ RER/ LCS UCL

LCL/UCL Typ 75 D

7039528 TC-99 BS 14133-76-7

1.3E+01

95.2

L 10:38

125

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6D61CS

Sdg/Rept Nbr: W05107

7 34705

Collection Date

Collection Date: 02/01/2007 09:01

Client Id:

NA

Matrix:

WATER

BS

WATER

Sample On Date:

Moisture/Solids%*:

INA

QC Type:

Received Date:

02/01/2007

SAF	SAF Nbr Contract Nbr MW6-SBB-A1998			est User	Case Nbr S		AS Nbr	Suffix	Decant D	Distilled Volume	File Id		FSuffix RTyp AX H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7039531 BS	BETA 12587-47-2	2.20E+01	pCi/L	3.7E+00 2.3E+00		2.53E+00	100.0	2.27E+01 97.2	9310_ALPHAE	3 2.006E-01 L	02/26/2007 20:25			70 130	D

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6DR1CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

BS

Received Date:

02/01/2007

					_	, po	. 50		11001100 Date. 02/01/2007						
SAF		Contract Nbr MW6-SBB-A19981		Test User	Case	Nbr	SAS Nbr	Suffix	Decant I	Distilled Volume	File	e Id		FSuffix F	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7039527 BS	CO-60 10198-40-0	3.56E+01	pCi/L	7.7E+00 7.7E+00		4.68E+0	00	3.82E+01 93.1	GAMMALL_GS	3 2.0015E+00 L	02/22/2007 08:49			75 125	D
7039527 BS	CS-137 10045-97-3	2.70E+01	pCi/L	7.1E+00 7.1E+00		5.06E+0	00	2.49E+01 108.7	GAMMALL_GS	3 2.0015E+00 L	02/22/2007 08:49			70 130	D
7039527 BS	EU-152 14683-23-9	6.20E+01	pCi/L	1.7E+01 1.7E+01	U	2.52E+0)1	7.70E+01 80.5	GAMMALL_GS	2.0015E+00 L	02/22/2007 08:49			70 130	D

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6E81CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 12:04

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

BS

Received Date:

02/01/2007

SAFI		Contract Nbr MW6-SBB-A19981		est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File Id		FSuffix RTy BB H		
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7039539 BS	U-234 13966-29-5	9.15E+00	pCi/L	1.9E+00 1.1E+00		1.58E-01	99.6	8.64E+00 105.9	UISO_PLATE	_ 2.001E-01 L	02/23/2007 22:47			75 125	D
7039539 BS	U-238 U-238	9.65E+00	pCi/L	2.0E+00 1.1E+00		1.58E-01	99.6	9.04E+00 106.7	UISO_PLATE	_ 2.001E-01 L	02/23/2007 22:47			75 125	D

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6EA1CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 12:16

Client Id:

NA

Matrix:

WATER

BS

WATER

Sample On Date:

Moisture/Solids%*:

Analyt/

CAS#

QC Type:

Received Date:

02/01/2007

SAF Nbr

Contract Nbr MW6-SBB-A19981 **Test User** Case Nbr

SAS Nbr

Suffix

Decant Distilled Volume File Id

FSuffix RTyp BD

Н

D

R

Batch # /

Qc Type

Result/ **Orig Rst**

2.05E+01

Tot/Cnt **Uncert 2S** Unit pCi/L 5.6E+00

Qu-

Tracer MDC Yield 1.10E+00 100.0

Spk Conc/ %Rec 2.26E+01

Analy Method 9310 ALPHAB

Aliq Size/ 1.997E-01

Date/Time RPD/ UCL Analyzed 02/26/2007

LCS RER/ UCL LCL/UCL Typ 70

7039532 ALPHA BS 12587-46-1

2.9E+00

al

90.8

L 20:04 130

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide. J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6ED1CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/02/2007 10:02

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

BS

Received Date: 02/02/2007

SAF		Contract Nbr MW6-SBB-A19981		Test User		Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File Id			RTyp H	
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/U	R L Typ
7039533	H-3	2.44E+03	pCi/L	2.4E+02		3.04E+02	100.0	2.71E+03	906.0_H3_LS0	5.00E-03	02/22/2007			75	D
BS	10028-17-8			2.0E+02				89.8		L	00:26			125	

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Collection Date: 02/02/2007 10:02

Lab Sample Id:

JN6ED1EM

Sdg/Rept Nbr: W05107

34705

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date:

02/02/2007

SAF		Contract Nbr MW6-SBB-A19981				Case Nbr S		SAS Nbr Suffix		Decant Distilled Volume		File Id		FSuffix RTyp BH H		?Тур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ	
7039533 BS	H-3 10028-17-8	2.54E+03	pCi/L	2.5E+02 2.0E+02		3.08E+02	100.0	2.72E+03 93.7	906.0_H3_LS0	5.00E-03 L	02/22/2007 16:47			75 125	D	

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6EX1CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 12:52

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type: BS

Received Date:

02/01/2007

SAF	SAF Nbr Contract Nbr MW6-SBB-A199			Test User	Case Nbr SA		SAS Nbr	Suffix	Decant	Distilled Volume	File Id			FSuffix I BJ	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R CL Typ
7039534 BS	Uranium 7440-61-1	3.26E+01	ug/L	4.0E+00 4.0E+00		8.19E-02	2	3.51E+01 92.8	UTOT_KPA	2.56E-02 ML	02/28/2007 16:35			75 125	D

19

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6EX1DS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 12:52

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

CAS#

Uranium

7440-61-1

QC Type:

BS

Received Date:

02/01/2007

SAF Nbr

Qc Type

7039534

BS

Contract Nbr MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix

Distilled Volume Decant

File Id

FSuffix RTyp BK

Η

R

Batch # / Analyt/

Result/ Orig Rst 3.55E+00

Tot/Cnt Unit Uncert 2S 3.6E-01 ug/L

3.6E-01

Test User

Qu-MDC 8.09E-02

Tracer Yield

Spk Conc/ %Rec 3.50E+00 101.4

Analy Method UTOT_KPA

Aliq Size/ 2.59E-02 ML

Date/Time Analyzed 02/28/2007 16:37

RPD/ RER/ UCL UCL

LCS LCL/UCL Typ

75 D 125

Monday, March 19, 2007 STL Richland QC Control Sample Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\V\Rad\W05107.Edd, h:\Reportdb\edd\Fead\V\Rad\\034705.Edd

Lab Sample Id: JN6FA1CS **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 09:01

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BS Received Date: 02/01/2007

SAF Nbr Contract Nbr Test User SAS Nbr Suffix Case Nbr Decant **Distilled Volume** File Id FSuffix RTyp MW6-SBB-A19981 BMН Batch # / Analyt/ Result/ Tot/Cnt Spk Conc/ Qu-Tracer Analy Aliq Date/Time RPD/ RER/ LCS R Qc Type CAS# **Orig Rst** Unit Uncert 2S MDC Yield %Rec Method LCL/UCL Typ al Size/ Analyzed UCL UCL 7039542 SR-90 1.31E+01 pCi/L 2.0E+00 4.23E-01 93.0 1.36E+01 SRISO_SEP_P 1.004E+00 02/28/2007 70 D BS 10098-97-2 6.7E-01 96.3 06:51 130

Monday, March 19, 2007 STL Richland QC Control Sample Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JN6FC1CS **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/02/2007 11:52

Client Id: NA Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: BS Received Date: 02/02/2007

SAF Nbr Contract Nbr Test User SAS Nbr Case Nbr Suffix **Distilled Volume** File Id FSuffix RTyp Decant MW6-SBB-A19981 ВО Н Batch #/ Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time RPD/ RER/ LCS R CAS# MDC %Rec Qc Type Orig Rst Unit Uncert 2S al Yield Method Size/ Analyzed UCL UCL LCL/UCL Typ 7039543 I-129L pCi/L 9.4E-01 3.52E-01 97.5 9.72E+00 6.76E+00 1129LL SEP L 3.9643E+00 02/27/2007 70 D BS 15046-84-1 9.4E-01 69.6 05:14 130

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6FC2CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/02/2007 11:52

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

BS

Received Date: 02/02/2007

SAF Nbr Contract Nbr MW6-SBB-A1998			т	Test User		Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File Id			FSuffix F BP	RTyp H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7039543 BS	I-129L 15046-84-1	8.49E+00	pCi/L	1.1E+00 1.1E+00		3.50E-01	97.5	9.72E+00 87.3	I129LL_SEP_	L 3.9643E+00 L	03/01/2007 10:34			70 130	D

STL Richland QC Control Sample Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JN6FE1CS

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 10:15

Client Id:

NA

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

BS

Received Date:

02/01/2007

SAF		ntract Nbr -SBB-A19981	Т	est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	eld		FSuffix F BR	РТУР Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7039545 BS	PU-239 PU-239/240	4.40E+00	pCi/L	1.4E+00 1.1E+00		3.51E-01	47.3	4.49E+00 98.0	PUISO_PLATE	2.029E-01 L	02/20/2007 18:40			75 125	D

Monday, March 19, 2007 STL Richland QC Duplicate Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JNV3N1DR **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 12:16

Client Id: B1LRH3 Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: DUP Received Date: 02/01/2007

SAF Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant Distilled Volume File Id FSuffix RTyp
WO7-001 MW6-SBB-A19981
BS H

Batch #/ Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq RPD/ RER/ LCS Date/Time R CAS# Orig Rst Qc Type Unit Uncert 2S MDC Yield %Rec Method Size/ Analyzed UCL UCL LCL/UCL Typ 7039532 ALPHA 2.46E+00 pCi/L 1.5E+00 1.53E+00 100.0 9310 ALPHAB 2.013E-01 02/26/2007 23.6 0.5 D DUP 12587-46-1 1.94E+00 1.3E+00 20:04 20.0 3

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JNVW71DR

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 12:04

Client Id:

B1LCD8

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

DUP

Received Date:

02/01/2007

SAF Nbr S07-012

Contract Nbr MW6-SBB-A19981 Case Nbr

SAS Nbr

Suffix

Decant

Distilled Volume

File Id

BU Н

D

R

FSuffix RTyp

Batch # / Qc Type

DUP

Analyt/ CAS# 7039534 Uranium 7440-61-1

Result/ **Orig Rst** 7.01E+01 7.02E+01

Tot/Cnt Uncert 2S Unit 8.5E+00 8.5E+00

Test User

Qual MDC 8.35E-02 Tracer Spk Conc/ Yield %Rec

Analy Method UTOT_KPA

Aliq Size/ 2.51E-02

Date/Time Analyzed 02/28/2007 ML 16:51

UCL UCL .1

RPD/

LCS LCL/UCL Typ

0. 20.0 3

RER/

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

pCi/L 4.5E+00

1.8E+00

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JNVW71ER

Sdg/Rept Nbr: W05107

1.62E-01 96.4

34705

Collection Date: 02/01/2007 12:04

0.3

3

3.6

20.0

D

Client Id:

7039539 U-238

DUP

U-238

B1LCD8

2.47E+01

2.56E+01

Matrix:

WATER

Sample On Date:

UISO_PLATE_ 2.013E-01

Moisture/Solids%*:

QC Type:

DUP

WATER

Received Date: 02/01/2007

02/23/2007

18:56

SAF I		ntract Nbr S-SBB-A19981	T	est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	e Id		FSuffix R	Гур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R . Typ
7039539	U-234	2.60E+01	pCi/L	4.7E+00		1.62E-01	96.4		UISO_PLATE_	_ 2.013E-01	02/23/2007	4.8	0.4		D
DUP	13966-29-5	2.72E+01		1.9E+00						L	18:56	20.0	3		
7039539	U-235	7.80E-01	pCi/L	3.5E-01		1.62E-01	96.4		UISO_PLATE_	_ 2.013E-01	02/23/2007	24.0	0.9		D
DUP	15117-96-1	9.92E-01		3.3E-01						L	18:56	20.0	3		

STL Richland QC Duplicate Report

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JNXLR1JR

Sdg/Rept Nbr: W05107 34705

Collection Date: 02/01/2007 09:01

Lab Code: STLRL

Client Id:

B1LP09

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

QC Type:

DUP

Received Date:

02/01/2007

SAF I S07-0		Contract MW6-SBE		Т	est User	Case	Nbr	SAS Nbr	Suffix	Decant I	Distilled Volume	Fil	e Id		FSuffix F BW	RТур Н
Batch # / Qc Type	Analyt CAS#		Result/ Prig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UC	R L Typ
7039527	BE-7	1.3	39E+01	pCi/L	2.3E+01	U	4.40E+	01		GAMMALL_GS	1.9528E+00	02/22/2007	42.6	0.3		D
DUP	13966-02	2-4 9.0	03E+00		2.3E+01						L	08:47	20.0	3		
7039527	CO-60	1.0	63E+00	pCi/L	2.6E+00	U	5.51E+	00		GAMMALL_GS	1.9528E+00	02/22/2007	8.6	0.1		D
DUP	10198-40)-0 1.	78E+00		2.6E+00						L	08:47	20.0	3		
7039527	CS-134	-1	.30E+00	pCi/L	3.0E+00	U	5.15E+	00		GAMMALL_GS	1.9528E+00	02/22/2007	0.0	0.6		D
DUP	13967-70)-9 -1	.30E-01		3.0E+00						L	08:47	20.0	3		
7039527	CS-137	-3	.44E-01	pCi/L	2.6E+00	U	4.69E+	00		GAMMALL_GS	1.9528E+00	02/22/2007	462.5	0.7		D
DUP	10045-97	7-3 8.0	68E-01		2.6E+00						L	08:47	20.0	3		
7039527	EU-152	3.3	33E+00	pCi/L	5.1E+00	U	9.85E+	00		GAMMALL_GS	1.9528E+00	02/22/2007	908.4	1.5		D
DUP	14683-23	3-9 -2	.13E+00		5.1E+00						L	08:47	20.0	3		
7039527	EU-154	-1	.46E+00	pCi/L	6.6E+00	U	1.22E+	01		GAMMALL_GS	1.9528E+00	02/22/2007	0.0	0.3		D
DUP	15585-10)-1 -2	.64E+00		6.6E+00						L	08:47	20.0	3		
7039527	EU-155	-7	.19E-01	pCi/L	4.0E+00	U	7.01E+	00		GAMMALL_GS	1.9528E+00	02/22/2007	0.0	0.6		D
DUP	14391-16	5-3 -2	.45E+00		4.0E+00						L	08:47	20.0	3		
7039527	K-40	2.	09E-01	pCi/L	5.4E+01	U	1.18E+	02		GAMMALL_GS	1.9528E+00	02/22/2007	0.0	0.		D
DUP	13966-00)-2 -1	.08E+00		5.4E+01						L	08:47	20.0	3		
7039527	RU-106	8.3	38E+00	pCi/L	1.9E+01	U	3.78E+	01		GAMMALL_GS	1.9528E+00	02/22/2007	0.0	1.7		D
DUP	13967-48	3-1 -1	.48E+01		1.9E+01						L	08:47	20.0	3		
7039527	SB-125	-4	.45E+00	pCi/L	5.9E+00	U	9.71E+	00		GAMMALL_GS	1.9528E+00	02/22/2007	0.0	1.9		D
DUP	14234-35	5-6 3.	73E+00		5.9E+00						L	08:47	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JNXLR1LR

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

B1LP09

Matrix:

WATER WATER

Sample On Date:

Sampre

Moisture/Solids%*:

QC Type:

DUP

Received Date:

02/01/2007

SAF 1 S07-0		ntract Nbr S-SBB-A19981	Т	est User	Case	Nbr SA	AS Nbr	Suffix	Decant [Distilled Volume	File	e Id		FSuffix R BY	Тур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R . Typ
7039531 DUP	BETA 12587-47-2	3.50E+01 3.84E+01	pCi/L	5.4E+00 3.0E+00		2.87E+00	100.0		9310_ALPHAE	2.004E-01 L	02/26/2007 20:25	9.3 20.0	0.9 3		D

STL Richland QC Duplicate Report

Lab Code: STLRL

FormNbr: R

FormatType: FEAD

VersionNbr: 05

File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Lab Sample Id:

JNXLR1MR

Sdg/Rept Nbr: W05107

34705

Collection Date: 02/01/2007 09:01

Client Id:

B1LP09

Matrix:

WATER

WATER

Sample On Date:

Moisture/Solids%*:

CAS#

QC Type:

DUP

Received Date: 02/01/2007

SAF Nbr

Contract Nbr

Case Nbr

Suffix

S07-001

MW6-SBB-A19981

Test User

SAS Nbr

Decant

Distilled Volume

File Id

FSuffix RTyp ΒZ Н

Batch # /

Qc Type

Analyt/ Result/

Tot/Cnt Uncert 2S Unit

Qu-MDC al U

Tracer Yield

Spk Conc/ %Rec

Analy Method Aliq Size/

Date/Time RPD/ Analyzed UCL 02/28/2007

RER/ UCL

LCS

R

D

7039542 SR-90 DUP 10098-97-2

Orig Rst 3.68E-02 -2.94E-02

pCi/L 2.9E-01 2.9E-01 6.15E-01 84.9

SRISO_SEP_P 9.934E-01

06:50 20.0

1771.4 0.3 3

LCL/UCL Typ

STL Richland

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.

J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).

B Qual- Analyte was found in the associated laboratory blank above the MDC.

Monday, March 19, 2007 STL Richland QC Duplicate Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JNXMG1GR Sdg/Rept Nbr: W05107 34705 Collection Date: 02/01/2007 10:15

Client Id: B1LP14 Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: DUP Received Date: 02/01/2007

SAF Nbr Contract Nbr Test User Case Nbr SAS Nbr Suffix Decant Distilled Volume File Id FSuffix RTyp S07-001 MW6-SBB-A19981

Batch # / Analyt/ Result/ Tot/Cnt Spk Conc/ Analy Date/Time Qu-Tracer Aliq RPD/ RER/ LCS R Qc Type CAS# **Orig Rst** Uncert 2S MDC Yield %Rec Method Size/ UCL LCL/UCL Typ Unit al Analyzed UCL TC-99 7039528 2.05E+02 pCi/L 2.0E+01 9.86E+00 100.0 TC99_ETVDSK 1.254E-01 02/20/2007 4.1 0.6 D DUP 14133-76-7 2.13E+02 8.7E+00 10:37 20.0 3

Monday, March 19, 2007 STL Richland QC Duplicate Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\W05107.Edd

Lab Sample Id: JNXMG1HR Sdg/Rept Nbr: W05107 34705 Collection Date: 02/01/2007 10:15

Client Id: B1LP14 Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: DUP Received Date: 02/01/2007

SAF S07-0		ntract Nbr -SBB-A19981	7	est User	Case	Nbr S	AS Nbr	Suffix	Decant	Distilled Volume	File	e Id		FSuffix R	Тур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R . Typ
7039545 DUP	PU-238 13981-16-3	0.00E+00 0.00E+00	pCi/L	9.3E-02 9.3E-02	U	2.19E-01	74.6		PUISO_PLATE	E 2.009E-01 L	02/20/2007 18:40	0.0 20.0	0. 3		D
7039545 DUP	PU-239 PU-239/240	2.74E-02 2.85E-02	pCi/L	9.5E-02 9.5E-02	U	2.59E-01	74.6		PUISO_PLATE	E 2.009E-01 L	02/20/2007 18:40	3.8 20.0	0. 3		D

Lab Code: STLRL

Monday, March 19, 2007 STL Richland QC Duplicate Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\\Fead\V\Rad\\W05107.Edd, h:\Reportdb\edd\\Fead\V\Rad\\W05107.Edd

Lab Sample Id: JNXR01DR **Sdg/Rept Nbr**: W05107 34705 **Collection Date**: 02/02/2007 10:02

Client Id: B1LPC1 Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: DUP Received Date: 02/02/2007

SAF N S07-00		ntract Nbr S-SBB-A19981	Т	est User	Case	Nbr S	AS Nbr	Suffix	Decant [Distilled Volume	File	e ld		FSuffix R'	Гур Н
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R . Typ
7039533	H-3	4.81E+04	pCi/L	1.9E+03		3.02E+02	100.0		906.0_H3_LSC	5.00E-03	02/22/2007	.5	0.2		D
DUP	10028-17-8	4.83E+04		7.1E+02						L	20:54	20.0	3		

Monday, March 19, 2007 STL Richland QC Duplicate Report

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\Fead\V05107.Edd, h:\Reportdb\edd\Fead\V05107.Edd, h:\Reportdb\edd\Fead\V05107.Edd

Lab Sample Id: JNXRL1CR Sdg/Rept Nbr: W05107 34705 Collection Date: 02/02/2007 11:52

Client Id: B1LC48 Matrix: WATER WATER Sample On Date:

Moisture/Solids%*: QC Type: DUP Received Date: 02/02/2007

SAF I S07-0		ntract Nbr -SBB-A19981	Т	est User	Case	Nbr SA	AS Nbr	Suffix	Decant	Distilled Volume	File	ld		FSuffix RTyp CD H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS R LCL/UCL Typ
7039543	I-129L	5.12E-02	pCi/L	1.4E-01	U	2.75E-01	97.6		I129LL_SEP_I	3.7707E+00	02/26/2007	11.8	0.1	D
DUP	15046-84-1	4.55E-02		1.4E-01						L	22:26	20.0	3	

Lab Code: STLRL

Monday, March 19, 2007 STL Richland Qc Matrix Spike Report Lab Code: STLRL

FormNbr: R FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\W05107.Edd, h:\Reportdb\edd\FeadIV\Rad\\05.Edd

Lab Sample Id: JNVW31CW **Sdg/Rept Nbr:** W05107 34705 **Collection Date:** 02/01/2007 12:52

Client Id: B1LCH5 Matrix: WATER WATER Sample On Date:

8.42E-02

2.3E+01

2.3E+01

ug/L

3.93E+01

Moisture/Solids%*: QC Type: MS Received Date: 02/01/2007

SAF N	or C	Contract Nbr	T	est User	Case N	br S	SAS Nbr	Suffix	Decant	Distilled Volume	File	e ld		FSuffix F	₹Тур
S07-012	2 MV	V6-SBB-A19981												BT	Н
Batch # /	Analyt/	Result/		Tot/Cnt	Qu-		Tracer	Spk Conc/	Analy	Aliq	Date/Time	RPD/	RER/	LCS	R
Qc Type	CAS#	Orig Rst	Unit	Uncert 2S	al	MDC	Yield	%Rec	Method	Size/	Analyzed	UCL	UCL	LCL/UC	L Typ

3.62E+01

108.6

UTOT_KPA

2.49E-02

ML

02/28/2007

16:43

7039534 Uranium

MS

7440-61-1

60

140

D

Monday, March 19, 2007 STL Richland Qc Matrix Spike Report

> FormatType: FEAD VersionNbr: 05 File Name: h:\Reportdb\edd\FeadIV\Rad\V\05107.Edd. h:\Reportdb\edd\FeadIV\Rad\34705.Edd

Sdg/Rept Nbr: W05107 Lab Sample Id: JNXLR1KW 34705 Collection Date: 02/01/2007 09:01

Client Id: B1LP09 WATER WATER Matrix: Sample On Date:

Moisture/Solids%*: QC Type: MS Received Date: 02/01/2007

SAF Nbr Contract Nbr **Test User** SAS Nbr Suffix **Distilled Volume** FSuffix RTyp Case Nbr Decant File Id S07-001 MW6-SBB-A19981 BX Н Batch # / Analyt/ Result/ Tot/Cnt Qu-Tracer Spk Conc/ Analy Aliq Date/Time LCS

Qc Type CAS# **Orig Rst** Unit Uncert 2S ai MDC Yield %Rec Method Size/ Analyzed UCL UCL LCL/UCL Typ 7039528 TC-99 3.40E+03 pCi/L 2.4E+02 9.91E+00 100.0 3.68E+03 TC99_ETVDSK 1.245E-01 02/20/2007 60 D MS 14133-76-7 3.2E+01 92.3 10:37 140

FormNbr: R

R

Lab Code: STLRL

RER/

RPD/



Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/21/2007 2:46:24 PM

Page 1

Lot No., Due Date:

J7B050132; 03/19/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7039545; RPUISO Pulso by ALP

SDG, Matrix:

QAS_RADCALCv4.8.26

W05107; WATER

OL.	Matrix. W05107; WATER			
	COC Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yeş	No	N/Δ
page and		Ž		13/73
2.0 2.1	QC Batch Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2	Are the QC appropriate for the analysis included in the batch?	Yes	No	N/A
2.3	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4	Does the Worksheets include a Tracer Vial label for each sample?	Yea	No	N/A
	QC & Samples			
3.1	Is the blank results, yield, and MDA within contract limits?	Yes	No	N/A
3.2	Is the LCS result, yield, and MDA within contract limits?	Yes	No	N/A
3.3	Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4	Are the duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5	Are the sample yields and MDAs within contract limits?	Yes	No	N/A
4.0	Raw Data			
4.1	Were results calculated in the correct units?	Yes	No	N/A
4.2	Were analysis volumes entered correctly?	Yes	No	N/A
4.3	Were Yields entered correctly?	Yes	No	N/A
4.4	Were spectra reviewed/meet contractual requirements?	Yes	No	N/A
4.5	Were raw counts reviewed for anomalies?	Yes	No	N/A
5.0	Other			
5.1	Are all nonconformances included and noted?	Yes	No	N/A
5.2	Are all required forms filled out?	Yes	No	N/A
5.3	Was the correct methodology used?	Yes	No	N/A
5.4	Was transcription checked?	Yes	No	N/A
5.5	Were all calculations checked at a minimum frequency?	Yes	No	N/A
5.6	Are worksheet entries complete and correct?	Yes	No	N/A
6.0	Comments on any No response:	service en	in in many the symplectic part	aceste established
ORIGINA PART CARTES		-migrates are himsels in one generalization day on over electros assessit	LOCA WASHINGTONIAN ES	g*************************************
Fir	st Level Review Date 2/21/2	17		
	Richland		-	
سا ا ر د ه د		Page	1	



1. Are all Nonconformances included and noted?

OC Batch Number:

w 02107			
Review Item	Yes (√)	No.(1)	N/A (√)
A. Sample Analysis		12.0(1)	11/22(4)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?			.
3. Are the correct isotopes reported?			
B. QC Samples			
 Is the Minimum Detectable Activity for the blank result ≤ the 			
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?		 	
4, Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			+
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?			Ì
8. Do the MS/MSD results and yields meet acceptance criteria?			
9. Do the duplicate sample results and yields meet acceptance	 	 	+
criteria?		1	
C. Other			

2. Are all required forms filled out?				
3. Was the correct methodology used?			-	
4. Was transcription checked?				
5. Were all calculations checked at a minimum frequency?			<u> </u>	
S. Were units checked?	+ /		 	
Comments on any "No" response:				
			-	
•			•	
	. ,			
	•			
Second Level Review Resseyl R Old	?	Date; ≪	7-63-8	ng



Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/27/2007 1:31:41 PM

Lot No., Due Date:

J7B020316; 03/19/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7039539; RUISO Ulso by ALP

SDG, Matrix:

W05107; WATER

	COC Is the ICCC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Ye ş	No	N/A
2 (QC Batch	V		androne oder datum
2.1	Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yea	No	N/A
2.2	Are the QC appropriate for the analysis included in the batch?	Yeş	No	N/A
2.3	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4	Does the Worksheets include a Tracer Vial label for each sample?	Yeş	No	N/A
3.0	QC & Samples	V .		
	Is the blank results, yield, and MDA within contract limits?	Yes	No	N/A
	Is the LCS result, yield, and MDA within contract limits?	Yes	No	N/A
3.3	Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4	Are the duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5	Are the sample yields and MDAs within contract limits?	Yes	No	N/A
	Raw Data Were results calculated in the correct units?	Yeş	No	N/A
4.2	Were analysis volumes entered correctly?	V.	***************************************	
***************************************		Y ea	NO	N/A
	Were Yields entered correctly?	Yes	No	N/A
	Were spectra reviewed/meet contractual requirements?	Yes	No	N/A
	Were raw counts reviewed for anomalies?	Yes	No	N/A
5.0 5.1	Other Are all nonconformances included and noted?	Yes	No	N/A
5.2	Are all required forms filled out?			N/A
5.3	Was the correct methodology used?	<u> </u>	POTENCIA DE LA CONTRACTOR DE LA CONTRACT	N/A
***********	Was tran: cription checked?	Yeş	***************************************	N/A
i 5	Were all calculations checked at a minimum frequency?	V		
		Yes	No	N/A
*******	Are worksheet entries complete and correct?	Yes	No	N/A
5.0	Comments on any No response:	***************************************	PITMs Associate Season	WATER TO STATE OF THE STATE OF

First Level Review

STL Richland

QAS_RADCALCv4.8.26

Date 2/17/17

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	Yes (V)	No(4)	$ N/A(\sqrt{)} $
A. Sample Analysis		110(1)	14/27 (4)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract		 	
Detection Limit?			
3. Are the correct isotopes reported?		-	
B. QC Samples		-	
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?		-	
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			+
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			+
9. Do the duplicate sample results and yields meet acceptance			+
criteria?			
C. Other	·		· · · · · · · · · · · · · · · · · · ·
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?			-
6. Were units checked?	_/_		-
6. Were units checked? Comments on any "No" response:			
			•
		,	

2/27/2007 11:41:24 AM

Data Review/Verification Checklist SEVERN STL TaRENT RADIOCHEMISTRY, First Level Review Lot No., Dun Date: J7B020335,J7B050132; 03/19/2007 Client, Site: 384868; PGW 615HANFORD HANFORD QC Batch No., Method Test: 7039532; RALPHA-A Alpha by GPC-Am SDG, Matrix: WO5107,W05107; WATER 8.0 Correction Calculation Protocol Used. No N/A Yeş 8.01 The Appropriate Methods Were Used To Analyze the Samples Yeş No N/A 8.02 Final Results Are in the Appropriate Activity Units Yes No N/A 8.03 Batch Contains the Required QC Appropriate for the Method Yeş No N/A OK 8.04 The Correct Tracer and QC Vials Where Used in the Samples Yes No N/A 8.05 Sample was Appropriately Traced Before or After Fractionating the Sample Yeş No N/A 8.06 At Leas the Minimum Sample Volume Was Used No N/A Yeş 8.07 The Correct Count Geometry was Used. No N/A Yes 8.08 The Sarnple was Counted for the Minimum Count Time or CRDL was Achieved. No N/A Yeş 8.09 Method Blank is within Control Limits. No N/A OK 8.1 Comments: 8.11 Matrix Blank is within Control Limits. Yes No N/A No Matrix Blanks (MBlks) found in Batch! 8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). No N/A 8.13 QAS Specified Duplicate Equation Value within Control Limits. No/ N/A Yes RPD > UCL: 20.0=> JNV3N1AD ALPHA 24.0 (RPD) 8.14 LCS within Control Limits. No N/A OK 8.15 MLCS within Control Limits. Yes No N/A No Matrix Spikes (MLCS) found in Batch! 8.16 MS within Control Limits. Yes No N/A No Matrix Spike Samples (MS) found in Batch! 8.17 Tracer within Control Limits. No N/A Yes 8.18 Samples are above Minimum Tracer Yield (No Failed Samples) No N/A 8.19 Sample Specific MDC <= CRDL. No N/A Yes OK 8.2 Comments: 8.21 Result < Lc, Activity Not Detected, U Flag. Yes No N/A No Limit Specified! 8.22 Result < Mdc, Activity Not Detected, U Flag.</p> Yes N/A Batch Positive Result => JNV3N1AA ALPHA 1.9E+00 L:1.3E+00 JNXLR1/JA ALPHA 4.2E+00 L:1.7E+00 8.23 Result < Action Level, when Defined. No N/A OK; No Action Level Found => ALPHA OK; No Callin Level Found => ALPHA 8.24 Result + 3s >=0, Not Too Negative. No N/A 8.25 Countinվ Spectrum are within FWHM Limits. Yes No N/A

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No FWHM found in Batch Data!

Page 1

8.26 Instruments have Current Calibrations.	Yes	No	N/A
8.27 Correct Count Library Used. No Count Library found in Batch Data!	Yes	No	NA
8.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version.	on Yéès	No	N/A
8.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later	Vres ic	n Neo) .	N/A
8.3 Comments: UCWH 10-09491			
8.31 Results Blank Subtracted as Appropriate.	Yeş	No	N/A
	4	ere saus sur mengelsoos	obrvatkuus os saatoneaanje
First Level Review Date 2/27/07			
STL Richland			

QAS_RADCALCv4.8.26

Page 2



eptance criteria? le Activity < the Contract city for the blank result ≤ the contract criteria? Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? ad yields meet acceptance d and noted? from minimum frequency?	Review Item	Yes (V)	No (1)	$N/A(\sqrt{)}$
le Activity < the Contract city for the blank result ≤ the contract criteria? Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? ad yields meet acceptance d and noted? from minimum frequency?	A. Sample Analysis		1210(1)	11/21(4)
le Activity < the Contract city for the blank result ≤ the contract criteria? Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? ad yields meet acceptance d and noted? from minimum frequency?	. Are the sample yields within acceptance criteria?			
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rity for the blank result ≤ the partract criteria? Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? f? minimum frequency?	Detection Limit?			
Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? ? minimum frequency?	. Are the correct isotopes reported?		-	
Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? ? minimum frequency?	3. QC Samples			
Detection Limit? Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? ? minimum frequency?	. Is the Minimum Detectable Activity for the blank result ≤ the			
Detection Limit? Detection Limit but the sample t? t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? ? minimum frequency?	Contract Detection Limit?			
Detection Limit but the sample t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? minimum frequency?	. Does the blank result meet the Contract criteria?			
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t? t acceptance criteria? Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? ? minimum frequency?	. Is the blank result > the Contract Detection Limit but the sample			
Activity ≤ the Contract Detection s meet acceptance criteria? d yields meet acceptance d and noted? ninimum frequency?	esult < the Contract Detection Limit?			
s meet acceptance criteria? Individual side of the si	. Is the LCS recovery with contract acceptance criteria?	-		
d yields meet acceptance d and noted? ? minimum frequency?	. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
d yields meet acceptance d and noted? ? minimum frequency?	imit?			
d and noted? d? minimum frequency?	. Do the MS/MSD results and yields meet acceptance criteria?			
ninimum frequency?	. Do the duplicate sample results and yields meet acceptance			
ninimum frequency?	riteria?			
ninimum frequency?	C. Other	·		-
minimum frequency?	. Are all Nonconformances included and noted?			
minimum frequency?	. Are all required forms filled out?			
			<u> </u>	
a:	. Were all calculations checked at a minimum frequency?			
9:	. Were units checked?	-		 .
	. Was the correct methodology used? . Was transcription checked? . Were all calculations checked at a minimum frequency? . Were units checked? Comments on any "No" response:			
			,	

Clouseau Nonconformance Memo



NCM #: 10-09491

NCM Initiated By: Lisa Antonson Date Opened: 02/27/2007

Date Closed:

Classification: Deficiency

Status: GLREVIEW

Production Area: Environmental - Prep

Tests: Alpha by GPC-Am

Lot #'s (Sample #'s): J7B020335 (1), J7B050132

(2), J7B080000 (532),

QC Batches: 7039532

Nonconformance: Other (describe in detail)
Subcategory: Other (explanation required)

Problem Description / Root Cause

Name Lisa Antonson <u>Date</u> 02/27/2007

<u>Description</u>

On this Alpha batch, the LCS didn't have a recovery. Looking at the raw data, it was

obvious that there was a blank/spike switch in the lab. The data was corrected in

radcalc. The LCS is now 91%. Data accepted.

Corrective Action

Name

<u>Date</u>

Corrective Action

Lisa Antonson

02/27/2007

Spoke with both analysts involved, they will use more caution.

Client Notification Summary

Client

Project Manager

Notified

Response How Notified

Note

Response

Response Note

Quality Assurance Verification

Verified By

Due Date

Status

Notes

This section not yet completed by QA.

Approval History

Date Approved

Approved By

Position

Date Printed: 2/27/2007

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Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/27/2007 11:06:11 AM

Lot No., Du⊕ Date:

J7B020335,J7B050132; 03/19/2007

Client, Site

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7039531; RBETA-SR Beta by GPC-Sr/Y

SDG, Matrix:

WO5107,W05107; WATER

SDC	3, Matri≍:	WO5107,W05107; WATER			
	Correction Calculation Protoc OK		Yes	No	N/A
734.6500507070707	OK .	Vere Used To Analyze the Samples	Yea	No	N/A
	Final Results Are in the App OK	•	Yea	No	N/A
	OK ;	ed QC Appropriate for the Method	Yes	No	N/A
8.04	The Correct Tracer and QC OK	Vials Where Used in the Samples	Yea	No	N/A
***************************************	OK	Traced Before or After Fractionating the Sample	Yes	No	N/A
	At Least the Minimum Samp OK		Yea	No	N/A
	The Correct Count Geometr		Yes	No	N/A
	OK	or the Minimum Count Time or CRDL was Achieved.	Yea		N/A
	Method Blank is within Cont	rol Limits.	Yes	No	N/A
. comments and a comment	Commens:		- TO SPACE OF THE STREET AND A STREET AS	Whiteholis of all all and and	
0.0000000000000000000000000000000000000	Matrix Blank is within Control No Matrix Blanks (MBlks) found	in Batch!	Yes		V
	OK	nit Value (No B Flag Necessary). quation Value within Control Limits.	<u>V</u>	atta tta muunaka staati	N/A
	OK (RPD) LCS within Control Limits.	quation value within Control Limits.	V		N/A
war military and the state of	OK MLCS within Control Limits.		V		N/A
	No Matrix Spikes (MLCS) found MS within Control Limits.			Programme and Alberta	N/A
	No Matrix Spike Samples (MS) tracer within Control Limits.				N/A
	OK :	m Tracer Yield (No Failed Samples)	V		N/A
	OK Sample Specific MDC <= C		<u>V</u>		N/A
	OK Comments:			No	N/A
7777.000.000	Result < Lc, Activity Not Det	fected U Flag		Nia	NI/A/
İ	No Limit Specified! Result < Mdc, Activity Not D		Yes	71.71.77 (781.50A.000)	V
ĺ	Batch Positive Result => JNV3N1A() BETA 7.4E+00 L:2.9 JNXLR1AC BETA 3.8E+01 L:2	9E+00	Yes	NO	N/A
8.23	Result <= Action Level, whe OK; No Action Level Found =>		Yes	No	N/A
1	OK; No Callin Level Found => Result + 3s >= 0, Not Too N		Yes	No	N/A
8.25	OK Counting Spectrum are with	in FWHM Limits.	Yes		
THE RESIDENCE THE ARREST	No FWHM found in Batch Data!		aktionista 1870 van kallistista tii joha tiiraktiosta että etää koksissaan suutovava etekenin valta arinevassa		<u>V</u>
	RADCAL()v4.8.26		Page	: 1	

8.26	Instruments have Current Calibrations.	No	N/A
8.27	Correct Count Library Used. No Count Library found in Batch Data!	No	N/A
8.28	Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later versions)	No	N/A
8.29	Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later West	o nNeo) .	N/A
8.3	Comments:	Perfections continues assessment	
8.31	Results Blank Subtracted as Appropriate.	No	N/A
H-PMRXHHMMON		More to construe de la construe de l	000 pm/2022 0014 (44) (42) 2000 million
: :	1 to Con O to Con O		
CILS:	t Level Review 100 Cutton 800 Date 13101		

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OC Batch Number:	1039531
	W05071 .

A. Sample Analysis Are the sample yields within acceptance criteria? Is the sample Minimum Detectable Activity < the Contract Detection Limit? Are the correct isotopes reported?	Yes (√)	$No(\sqrt{)}$	
. Is the sample Minimum Detectable Activity < the Contract Detection Limit? . Are the correct isotopes reported?			$N/A(\sqrt{)}$
. Is the sample Minimum Detectable Activity < the Contract Detection Limit? . Are the correct isotopes reported?			
Detection Limit? Are the correct isotopes reported?			
3. QC Samples			
. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			
. Does the blank result meet the Contract criteria?			
. Is the blank result < the Contract Detection Limit?	1		
. Is the blank result > the Contract Detection Limit but the sample			
esult < the Contract Detection Limit?			
. Is the LCS recovery with contract acceptance criteria?			<u> </u>
. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
<u>imit?</u>			
. Do the MS/MSD results and yields meet acceptance criteria?			
. Do the duplicate sample results and yields meet acceptance			1
riteria?			
C. Other			
Are all Nonconformances included and noted?			
. Are all required forms filled out?			<u> </u>
. Was the correct methodology used?			
. Was transcription checked?			-
. Were all calculations checked at a minimum frequency?			
. Were units checked?			



Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/28/2007 9:46:52 AM

Lot No., Due Date:

J7A310377,J7B050132; 03/16/2007,03/19/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7039542; RSR85907 Sr-85/90 by GPC-7

SDG, Matrix:

W05107; WATER

SDG, Matrix:	W05107; WATER			
1.0 COC				
THE RESIDENCE THE CONTRACT OF	mplete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
2.0 QC Batch 2.1 Do the Summary/De	tailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2 Are the QC appropri	ate for the analysis included in the batch?	Yeş	No	N/A
2.3 Is the Analytical Bate	ch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yeş	No	N/A
2.4 Does the Worksheet	s include a Tracer Vial label for each sample?	Yes	No	N/A
3.0 QC & Samples		V	West to	
	yield, and MDA within contract limits?	Yes	No	N/A
3.2 Is the LCS result, yie	eld, and MDA within contract limits?	Yes	No	N/A
3.3 Are the MS/MSD res	ults, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the duplicate res	ult, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the sample yield	s and MDAs within contract limits?	Yes	No	N/A
4.0 Raw Data				
4.1 Were results calcula		Yes	No	N/A
4.2 Were analysis volum	es entered correctly?	Yes	No	N/A
4.3 Were Yields entered	correctly?	Yes	No	N/A
4.4 Were spectra review	ed/meet contractual requirements?	Yes	No	N/A
4.5 Were raw counts rev	iewed for anomalies?	Yes	No	N/A
5.0 Other	nces included and noted?			
		Yes	No	N/A
5.2 Are all required forms	s filled out?	Yes	No	N/A
5.3 Was the correct meth	nodology used?	Yes	No	N/A
5.4 Was transcription che	ecked?	Yes	No	N/A
5.5 Were all calculations	checked at a minimum frequency?	Yeş	No	N/A
5.6 Are worksheet entries	s complete and correct?	Yeş	No	N/A
6.0 Comments on any No) response:	<u> </u>	THE RESERVE OF THE PARTY OF THE	eren (Chippen I Chi

First Level Review

QAS_RADCALCv4.8.26

STL Richland

mall Larry

Date Jelbruary 28, 2007

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Review Item	Yes $(\sqrt{\ })$	No (V)	N/A (V)
A. Sample Analysis		1210(1)	1777 (1)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?			.
3. Are the correct isotopes reported?			
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
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4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria? 9. Do the duplicate sample results and yields meet acceptance			
criteria?			
C. Other	-		<u>.</u>
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			_
4. Was transcription checked?	 		
5. Were all calculations checked at a minimum frequency?	 		
6. Were units checked?	+		<u> </u>
Comments on any "No" response:			
			·
		· · · · · · · · · · · · · · · · · · ·	
		,	

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/22/2007 1:19:06 PM

Lot No., Due Date:

J7B050132; 03/19/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7039527; RGAMMA Gamma by GER

SDG, Matrix:

W05107; WATER

1.1 2.0	COC Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Ye ş		
2.0		Yes		100000018000000
2.0 2.1		V	No	N/A
	QC Batch Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yeş	No	N/A
2.2	Are the QC appropriate for the analysis included in the batch?	Yeş		N/A
	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	<u>V</u>		Maria da 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a 1 a
-concentration		Yea	ela com mello (collecto	N/A
isalikoras ka	Does the Worksheets include a Tracer Vial label for each sample?	Yea	No	N/A
	QC & Samples Is the blank results, yield, and MDA within contract limits?	Yeş	No	N/A
3.2	s the LCS result, yield, and MDA within contract limits?	<u> </u>		N/A
	Are the MS/MSD results, yields, and MDA within contract limits?	Yea		
		Yes	No	N/A
	Are the duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5	Are the sample yields and MDAs within contract limits?	Yes	No	N/A
	Raw Data Were results calculated in the correct units?	nive Voo	NIA	NI/A
	Were analysis volumes entered correctly?	Yeş		N/A
II (BELOWDOW)		Yes	No	N/A
	Were Yields entered correctly?	Yes	No	N/A
4.4	Were spectra reviewed/meet contractual requirements?	Yes	No	N/A
4.5	Were raw counts reviewed for anomalies?	Yes	No	N/A
	Other Are all nonconformances included and noted?			
		Yes	No	N/A
	Are all required forms filled out?	Yeş	No	N/A
5.3	Vas the correct methodology used?	Yes	No	N/A
5.4	Vas transcription checked?	Yeş	No	N/A
5.5	Vere all calculations checked at a minimum frequency?	Yeş	No	N/A
5.6	Are worksheet entries complete and correct?	Yeş	No	N/A
3.0	Comments on any No response:		N. Williamson	er ver er der sich der
iigh-id-edic diosas			TO 1000 4100000 ENDOS-0	

First Level Review

STL Richland
QAS_RADCALCv4.8.26

Date 2/22/07

Page 1



A. Sample Analysis 1. Are the sample yields within acceptance criteria? 2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported? B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the	Yes (√)	No (1)	N/A (V)
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported? B. QC Samples			
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported? B. QC Samples			
Detection Limit? 3. Are the correct isotopes reported? B. QC Samples			
B. QC Samples			
B. QC Samples 1. Is the Minimum Detectable Activity for the blank result < the			-
1. Is the Minimum Detectable Activity for the blank result < the			
			}
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?	1		
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?			
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection	/		1
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			
9. Do the duplicate sample results and yields meet acceptance			
criteria?			
C. Other			
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?			
6. Were units checked?			T



QAS_RADCALCv4.8.26

Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

3/6/2007 10:04:30 AM

Lot No., Due Date: J7A310377,J7B050132,J7B050154,J7B050158,J7B050163,J7B050162; 03/16/2007,03/19/2007 Client, Site: 384868; PGW 615HANFORD HANFORD QC Batch No., Method Test: 7039543; RGAMLEPS Gamma by LEPS SDG, Matrix: W05107; WATER 8.0 Correction Calculation Protocol Used. No N/A 8.01 The Appropriate Methods Were Used To Analyze the Samples Yes No N/A Method Differs => JNPEH1AA LEP<>TB JNXLQ1AA LEP<>TB JNXLR1AE LEP<>TB JNXMG1AC LEP<>TB JNXN21AC LEP<>TB JNXPG1AC LEP<>TB JNXPQ1AC LEP<>TB JNXPW1AC LEP<>TB JNXRL1AA LEP<>TB JNXRL1AC LEP<>TB JNXR01AC LEP<>TB JN6FC1AA LEP<>TB JN6FC2AC LEP<>TB Q:V6 8.02 Final Results Are in the Appropriate Activity Units Yes No N/A 8.03 Batch Contains the Required QC Appropriate for the Method Yeş No N/A 8.04 The Correct Tracer and QC Vials Where Used in the Samples Yes No N/A 8.05 Sample was Appropriately Traced Before or After Fractionating the Sample No N/A 8.06 At Least the Minimum Sample Volume Was Used Yes No N/A Analysis Volume => JNPEH1AA 3.942<4000.00 JNXLQ1AA 3.899<4000.00 616 JNXLR1AE 3.908<4000.00 JNXMG1AC 3.926<4000.00 JNXN21AC 3.905<4000.00 JNXPG1AC 3.877<4000.00 JNXPQ1AC 3.851<4000.00 JNXPW1AC 3.872<4000.00 JNXRL1AA 3.822<4000.00 JNXR01AC 3.935<4000.00 Q:VB 8.07 The Correct Count Geometry was Used. Yes No N/A Count Geometry => JNPEH1AA I FA<>IFA JNXLQ1AA I_FA<>IFA JNXLR1AE I_FA<>IFA 6K 2608 JNXMG1AC | FA<>IFA JNXN21AC I_FA<>IFA JNXPG1AC | FA<>IFA JNXPQ1AC I_FA<>IFA JNXPW1AC | FA<>IFA JNXRL1AA I_FA<>IFA JNXRL1AC | FA<>IFA JNXR01AC I_FA<>IFA JN6FC1AA I_FA<>IFA JN6FC2AC I_FA<>IFA Q:VC 8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. No N/A 8.09 Method Blank is within Control Limits. No N/A OK 8.1 Comments: 8.11 Matrix Blank is within Control Limits. Yes No N/A No Matrix Blanks (MBlks) found in Batch! 8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). No N/A 8.13 QAS Specified Duplicate Equation Value within Control Limits. Yeş No N/A OK (RPD) 10-09515 STL Richland Page 1 NUM

8.	.14 LCS within Control Limits.	Yeş	No	N/A
	OK	V		
8.	.15 MLCS within Control Limits.	Yes	No	N/A
	No Matrix Spikes (MLCS) found in Batch!			V
8.	.16 MS within Control Limits.	Yes	No	N/A
	No Matrix Spike Samples (MS) found in Batch!			V
8.	17 Tracer within Control Limits.	Yeş	No	N/A
	OK	V		
8.	18 Samples are above Minimum Tracer Yield (No Failed Samples)	Yes	No	N/A
	OK	. V.		
8.	19 Sample Specific MDC <= CRDL.	Yes	No	N/A
0	OK 2 Comments:	V		
0.	2 Confinents.			
R	21 Result < Lc, Activity Not Detected, U Flag.	V	NI.	NI/A:
0.	No Limit Specified!	res	140	N/A
8	22 Result < Mdc, Activity Not Detected, U Flag.	Voc	Na	NI/A
10.	Batch Positive Result =>	165	110	N/A
	JNXLR1AE I-129L 1.4E+00 L:2.6E-01			
	JNXMG1AC I-129L 7.7E-01 L:4.2E-01			
	JNXPQ1AC I-129L 1.7E+00 L:2.7E-01 JNXPW1AC I-129L 3.2E+00 L:3.0E-01			
	JNXR01AC I-129L 2.5E+00 L:2.7E-01			
8.	23 Result <= Action Level, when Defined.	Yes	No	N/A
	OK; No Action Level Found => I-129L	V		
	OK; No Callin Level Found => I-129L			
8.	24 Result + 3s >=0, Not Too Negative.	Yeş	No	N/A
	OK	.Y		
8.	25 Counting Spectrum are within FWHM Limits.	Yes	No	N/A
	FWHM > maxFWHM => JNXLR1AE I-129L 15>0 JNXPQ1AC I-129L 21.00>0		M	
	JNXPW1AC I-129L 18.00>0			
	JNXR01AC I-129L 25.00>0			
	JN6FC2AC I-129L 19.00>0 Q:V1			
8.	26 Instruments have Current Calibrations.	Yes	No	N/A
,	07 Correct Count Library Hood			
0.4	27 Correct Count Library Used.	Yes	No	N/A
	Library Not Specified => JNPEH1AA I:[NUC_LIBR]LEPS.NLB Q: JNXLQ1AA I:[NUC_LIBR]LEPS.NLB Q:			
	JNXLR1AE I:[NUC_LIBR]LEPS.NLB Q:			
	JNXMG1AC Í:[NUC_LIBŘ]LEPS.NLB Q:			
	JNXN21AC I:[NUC_LIBR]LEPS.NLB Q:			
	JNXPG1AC I:[NUC_LIBR]LEPS.NLB Q: JNXPQ1AC I:[NUC_LIBR]LEPS.NLB Q:			
	JNXPW1AC I:[NUC_LIBR]LEPS.NLB Q:			
	JNXRL1AA I:[NUC_LIBR]LEPS.NLB Q:			
	JNXRL1AC I:[NUC_LIBR]LEPS.NLB Q:			
	JNXR01AC I:[NUC_LIBR]LEPS.NLB Q: JN6FC1AA I:[NUC_LIBR]LEPS.NLB Q:			
	JN6FC2AC I:[NUC_LIBR]LEPS.NLB Q:			
8.2	28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in later version	ntéès	No	N/A
8.2	29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed in later	∨ Yéess io	nNeo).	N/A
8.3	3 Comments:			
	Od Davida Divida Outrantal as Assessment			
8.3	31 Results Blank Subtracted as Appropriate.	Yes	No	N/A
	OK	Y		2000 -000
, ,	rst Level Review Pan and anderson Date 3-1007			
1				
1	L Richland	Page	2	
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 A. Sample Analysis 1. Are the sample yields within acceptance criteria? 2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported? B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit? 2. Does the blank result meet the Contract criteria? 3. Is the blank result < the Contract Detection Limit? 4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit? 5. Is the LCS recovery with contract acceptance criteria? 7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit? 8. Do the MS/MSD results and yields meet acceptance criteria? 9. Do the duplicate sample results and yields meet acceptance criteria? C. Other 	Yes (V)	No (V)	N/A (√)
A. Sample Analysis 1. Are the sample yields within acceptance criteria? 2. Is the sample Minimum Detectable Activity < the Contract Detection Limit? 3. Are the correct isotopes reported? B. QC Samples 1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit? 2. Does the blank result meet the Contract criteria? 3. Is the blank result < the Contract Detection Limit? 4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit? 5. Is the LCS recovery with contract acceptance criteria? 7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit? 8. Do the MS/MSD results and yields meet acceptance criteria? 9. Do the duplicate sample results and yields meet acceptance criteria? C. Other	Yes (V)	No (V)	N/A (\(\frac{1}{2}\))
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9. Do the duplicate sample results and yields meet acceptance criteria? C. Other			
criteria? C. Other		1 ,	
C. Other		54-10-07	
		2	***************************************
3 4 1757			
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			
4. Was transcription checked?			
5. Were all calculations checked at a minimum frequency?			· · · · · · · · · · · · · · · · · · ·
6. Were units checked?			· -
Comments on any "No" response: Tel MCeM			4
	-		77 d Million
		,	

Clouseau Nonconformance Memo



NCM #: 10-09515

NCM Initiated By: Pam Anderson Date Opened: 03/06/2007

Date Closed:

Classification: Anomaly

Status: **GLREVIEW**

Production Area: Environmental - Sep

Tests: Gamma by LEPS

Lot #'s (Sample #'s): J7A310377 (1), J7B050132

(1,2,3), J7B050154 (3), J7B050158 (1,2,3),

J7B050162 (1), J7B050163

(1), J7B080000 (543),

QC Batches: 7039543

Nonconformance: Other (describe in detail) Subcategory: Other (explanation required)

Problem Description / Root Cause

Name

Date

Description

Pam Anderson

03/06/2007

This I 129 in water had a low LCS recovery. It was recounted. The recount gives a

good LCS recovery. The difference is considered counting statistics.

Corrective Action

Name

Date

Corrective Action

Pam Anderson

03/06/2007

The LCS was recounted.

Client Notification Summary

Client

Project Manager

Notified

Response How Notified

Note

Response

Response Note

Quality Assurance Verification

Verified By

Due Date

This section not yet completed by QA.

Notes

Approval History

Date Approved

Approved By

Position

Date Printed: 3/6/2007

Data Review/Verification Checklist SEVERN 2/20/2007 4:07:03 PM RADIOCHEMISTRY, First Level Review Lot No., Due Date: J7B020339,J7B050132; 03/19/2007 Client, Site: 384868; PGW 615HANFORD HANFORD QC Batch No., Method Test: 7039528; RTC99 Tc-99 by LSC SDG, Matrix: W05107; WATER 8.0 Correction Calculation Protocol Used. No N/A 8.01 The Appropriate Methods Were Used To Analyze the Samples No N/A 8.02 Final Results Are in the Appropriate Activity Units No N/A OK 8.03 Batch Contains the Required QC Appropriate for the Method Yes No N/A 8.04 The Correct Tracer and QC Vials Where Used in the Samples No/ N/A Yes Incorrect Tracer/Vial => JNXLR1AK TCSG<>TCSE Q:V9 8.05 Sample was Appropriately Traced Before or After Fractionating the Sample Yeş No N/A 8.06 At Least the Minimum Sample Volume Was Used No N/A OK 8.07 The Correct Count Geometry was Used. No N/A Yes 8.08 The Sample was Counted for the Minimum Count Time or CRDL was Achieved. Yeş No N/A 8.09 Method Blank is within Control Limits. Yes No N/A OK 8.1 Comments: 8.11 Matrix Blank is within Control Limits. Yes No N/A No Matrix Blanks (MBlks) found in Batch! 8.12 Method Blank(s) < QAS Limit Value (No B Flag Necessary). Yes No N/A 8.13 QAS Specified Duplicate Equation Value within Control Limits. Yes No N/A OK (RPD) 8.14 LCS within Control Limits. Yes No N/A OK 8.15 MLCS within Control Limits. Yes No N/A No Matrix Spikes (MLCS) found in Batch! 8.16 MS within Control Limits. No N/A 8.17 Tracer within Control Limits. N/A Yes No No Tracers found in Batch! 8.18 Samples are above Minimum Tracer Yield (No Failed Samples) Yes No N/A No Tracers found in Batch! 8.19 Sample Specific MDC <= CRDL. Yes No N/A OK 8.2 Comments: 8.21 Result < Lc, Activity Not Detected, U Flag. Yes No N/A No Limit Specified! 8.22 Result < Mdc, Activity Not Detected, U Flag. No N/A No Positive Results OK Calc. IDL Not Calculated

8.25 Counting Spectrum are within FWHM Limits.
No FWHM found in Batch Data!
1) (***) ACT INTO ACT

8.23 Result <= Action Level, when Defined.

OK; No Action Level Found => TC-99
OK; No Callin Level Found => TC-99
8.24 Result + 3s >=0, Not Too Negative.

No N/A

No N/A

8.26 Instruments have Current Calibrations.	Yes	No	N/A
3.27 Correct Count Library Used.	Yes	No	N/A
No Count Library found in Batch Data! 3.28 Instrument Background within Limits at Time of Counting. (Not Applicable to this version. To be developed in late	er version isès	No	N/A
3.29 Instrument Check Source within Limits at the Time of Counting. (Not Applicable to this version. To be developed			
3.3 Comments:	MOVE STREET, ALL S	00.T.00.1977200000000000000000	Addition from a finding energy graph
8.31 Results Blank Subtracted as Appropriate. OK	Yeş	No	N/A
	THE PARTY OF THE P	The Reference Browns and an	production of the state of the
	and a second		
First Level Review NOC JUNE 2 10010))	-	
STL Richland QAS_RADCALCv4.8.26	Page	2	



OC Batch Number:	7039528	
•	W05107	

Yes (√)	No (√)	
	1	N/A (√)
 		
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Second Level Review Date: 2-21-07



Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

2/23/2007 11:31:55 AM

Lot No., Due Date:

J7B020323,J7B020339,J7B050154,J7B050153,J7B050158,J7B050163; 03/19/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch No., Method Test: 7039533; RTRITIUM H-3 by LSC

SDG, Matrix: W05107; WATER

- CONTRACTOR - CON	o, mank. WOSTOT, WATER			
1.0 1.1	COC Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yeş	No	N/A
LTVR CLCZENIA		V	rtor vii laute on	
2.0 2.1	QC Batch Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2	Are the QC appropriate for the analysis included in the batch?	Yes	No	N/A
2.3	Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yes	No	N/A
2.4	Does the Worksheets include a Tracer Vial label for each sample?	Yes	No	N/A
	QC & Samples Is the blank results, yield, and MDA within contract limits?	Yeş	No	N/A
3.2	Is the LCS result, yield, and MDA within contract limits?	Yes	No	N/A
3.3	Are the MS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4	Are the duplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5	Are the sample yields and MDAs within contract limits?	Yes	No	N/A
4.0 4.1	Raw Data Were results calculated in the correct units?	Yeş	No	N/A
4.2	Were analysis volumes entered correctly?	V		N/A
4.3	Were Yields entered correctly?	Yes	No	N/ 4
4.4	Were spectra reviewed/meet contractual requirements?	Yeş	No	N/A
4.5	Were raw counts reviewed for anomalies?	Yeş	No	N/A
5.0	Other			
5.1	Are all nonconformances included and noted?	Yes	No	N/A
5.2	Are all required forms filled out?	Yes	No	N/A
5.3	Was the correct methodology used?	Yes	No	N/A
5.4	Was transcription checked?	Yes	No	N/A
5.5	Were all calculations checked at a minimum frequency?	Yes	No	N/A
5.6	Are worksheet entries complete and correct?	Yes	No	N/A
	Comments on any No response:		t di descritorio de como	

STL Richland

QAS_RADCALCv4.8.26

Page 1



Data Review Checklist RADIOCHEMISTRY Second Level Review

Review Item	Yes (V)	No (V)	N/A (√)
A. Sample Analysis	108(4)	110(1)	1WA (V)
1. Are the sample yields within acceptance criteria?			į
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?			.
3. Are the correct isotopes reported?			
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the			
Contract Detection Limit?			***
2. Does the blank result meet the Contract criteria?	-		
3. Is the blank result < the Contract Detection Limit?			
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?	answer		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?			
9. Do the duplicate sample results and yields meet acceptance			
criteria?			
C. Other	·		
1. Are all Nonconformances included and noted?			
2. Are all required forms filled out?			
3. Was the correct methodology used?			
4. Was transcription checked?			·
5. Were all calculations checked at a minimum frequency?			
6. Were units checked?			· · · · · · ·
Comments on any "No" response:			
			,



Data Review/Verification Checklist RADIOCHEMISTRY, First Level Review

3/1/2007 8:38:29 AM

Lot No., Dun Date:

J7B020316; 03/19/2007

Client, Site:

384868; PGW 615HANFORD HANFORD

QC Batch № 5., Method Test: 7039534; RUNAT UNat by KPA

SDG. Matrix:

W05107; WATER

SDG, Mat	ix: W05107; WATER			
1.0 COC 1.1 Is the I	CCC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?	Yes	No	N/A
2.0 QC B action 2.1 Do the	tch Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?	Yes	No	N/A
2.2 Are the	QC appropriate for the analysis included in the batch?		No	N/A
2.3 Is the A	nalytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?	Yeş	No	N/A
2.4 Does th	e Worksheets include a Tracer Vial label for each sample?	Yeş	No	N/A
3.0 QC &				
3.1 Is the b	ank results, yield, and MDA within contract limits?	Yes	No	N/A
3.2 Is the L	CS result, yield, and MDA within contract limits?	Yes	No	N/A
3.3 Are the	NS/MSD results, yields, and MDA within contract limits?	Yes	No	N/A
3.4 Are the	daplicate result, yields, and MDAs within contract limits?	Yes	No	N/A
3.5 Are the	s: mple yields and MDAs within contract limits?	Yeş	No	N/A
4.0 Raw I	ala sults calculated in the correct units?	Voa	Na	NI/A
	allysis volumes entered correctly?	Yes		N/A
	•	Yeş	~~	N/A
	elds entered correctly?	Yes	No	N/A
	extra reviewed/meet contractual requirements?	Yes	No	N/A
4.5 Were ra	w counts reviewed for anomalies?	Yes	No	N/A
5.0 Other 5.1 Are all	cnconformances included and noted?	Yes	No	N/A
5.2 Are all	e: uired forms filled out?	The state of the s		N/A
5.3 Was th	correct methodology used?	Yeş	National relangerous seasons	N/A
5.4 Was tra	n;cription checked?	Yeş	**************************************	N/A
5.5 Were a	calculations checked at a minimum frequency?	Yeş		N/A
	scheet entries complete and correct?	V		N/A
	กัเร on any No response:	Yes	INU	IV/PA
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First Level Review

STL Richland
QAS_RADCAL(;v4.8.26

Date 3/1/67

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1. Are all Nonconformances included and noted?

2. Are all required forms filled out?3. Was the correct methodology used?4. Was transcription checked?

Data Review Checklist RADIOCHEMISTRY Second Level Review

W05167			
Review Item	Yes (V)	No (V)	$N/A(\sqrt{)}$
A. Sample Analysis		1	1===(1)
1. Are the sample yields within acceptance criteria?			
2. Is the sample Minimum Detectable Activity < the Contract			
Detection Limit?			
3. Are the correct isotopes reported?			
B. QC Samples	 		
 Is the Minimum Detectable Activity for the blank result ≤ the 			
Contract Detection Limit?			
2. Does the blank result meet the Contract criteria?			
3. Is the blank result < the Contract Detection Limit?	1		
4. Is the blank result > the Contract Detection Limit but the sample			
result < the Contract Detection Limit?			
5. Is the LCS recovery with contract acceptance criteria?		<u> </u>	
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection			A-000000000000000000000000000000000000
Limit?			
8. Do the MS/MSD results and yields meet acceptance criteria?		1	
9. Do the duplicate sample results and yields meet acceptance	1	1	
criteria?			4
C Other	 		

5. Were all calculations checked at a minimum frequency?	
6. Were units checked?	·
Comments on any "No" response:	
•	
Sand Louis Sulfa ()	

PNNL J 7A310377
Due 03.16.07
C. II

CHAIN OF CHETODY/CAMDLE ANALYSIS DEOLIGE

C.O.C.#

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Du	UU 3/U E U 3·/G Hantoro	. 07											. 1	Page <u>1</u>	of <u>1</u>
Collector R. T. S	ranioro IICKLE					Contact/Re Dot Stew					ephone No.		MSIN	FAX	
SAF No. 107-021				***************************************		Sampling C Hanford	Origin Purch				urchase Order/Charge Code				
Project Title						1	HNF-NS	T06-2		Ice	Chest No.	1-W1-	// Tem	D.	
2ZP1-LOI, JANU Shinned To (Lab)		MARKE DE COMME				Method of					of Lading/A				
Severn Trent Inco Protocol	ornorated. Ric	hland			CHRISTOPH CONTRACTOR CONTRACTOR	Govt. Ve		riority 45 Do		Offs	site Property	No.			
CERCLA POSSIBLE SAMP	LE HAZARI	S/RE	MARKS					riority: 45 Da	NSTRUCTIONS	Hold Tim	26	Tot	al Activity Ex	emption: Va	No. V No.
** ** Contains Rad releasable per DOE Ord	ioactive Materia	l at con		; are not regulat	ed for trans	portation per 49	CFR but are not	All Labs exc closure of 14	ept WSCF: Batch all Pl	NNL samples sub	omitted under A	, G, I, S, and	W 07 SAFs into	o one SDG, not	to exceed SDG
Sample No.	Lab ID	*	Date	Time	No/Typ	e Container		,	Sample Ana	alysis				Preserv	rative
B1LNF5		-	1-31-7	0938	1x20-m		Activity Scan			****		None			
B1LNF5)	W			ļ	-mL G/P	I129LL_SEP_L			***		None			
B1LNF5	}	W		4	3x1000	-mL G/P	SRISO_SEP_P	RECIP_GPC:	Sr-90 (1)		·	HNO3 to	эH <2		
				ļ	<u> </u>					www.			w	***************************************	
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		ļ			 				<u> </u>	PEH_				· · · · · · · · · · · · · · · · · · ·	
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4 4.4 HATTE PERMITTER									-						·
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		and the same of th		***************************************		#S				···					
Relinquished By Fluor Flamord	Print		Sign	9 /		/Time 1500	1 /1	Print	Sign	P & 6	Date/Time			Matrix *	
R. T. SICKLE Relinquished By	H					2007 e/Time	En John Received By	<u>ERIC</u>	Destly	JAI	N 3 1 20 Date/Time		SE = Soil SE = Sedime SO = Solid SL = Sludge W = Water	DS nt DL T WI	
Relinquished By					Date	e/Time	Received By				Date/Time		W = Water O = Oil A = Air	V X	LiquidVegetationOther
Relinquished By					Date	e/Time	Received By		-		Date/Time				
FINAL SAMPLE DISPOSITION	_ 1 ^	Method	(e.g., Return to	customer, per	lab procedu	are, used in proce	ess)		Disposed By				I	Date/Time	



Wo	ork Order Number	V7A310277	NA() SA	IU7-021-450
			C) L · · · · · ·	constitution,
1		And the second of the second o	Air Bill #	
2.		On shipping container in	GC(?	NA [] Yes (UNO []
3.			•	NA [] Yes (TNO []
4.	Cooler to a	ody record present?		
	cooler tempera	iture:NAI	5. Vermiculite/packing in	Yes WNO [] Interials is NA [Wei [] Dry [
6.			r:	merials is NA () Wei (10)
7.	Sample holding	times exceeded?		
8.	Samples have:			NA[] Yes[] No[]
	tape		hor	
	custody s	ca)s	hazard appron	labels riate samples labels
9.	Samples are:		(h. • þ	rinte samples labels
10.	broken Sample pH taker		leaking have ai (Only for sam	r bubbles ples requiring box t
ł I		, , , () bu	<2(4 pH>2(1) pHs	911
11	Sample Location *For documentat	. Sample Collector Listed ion only. No corrective a		
2.	Were 2014	······································	ction needed.	Yes (170()
3.	Description of an	ies identified in sample re	eccipt?	Yes () No H
ample	Custodian: Z	omittes (include sample r	numbers):	
		Janoy _	Date: //3/	1/07 1500
	ent Sample ID	Analysis Requested	Condition	
				Comments/Action
ent Inf	ormed on	by		
No ad	ction necessary; proc	PSV 20 in	Person contacted	
		C55 35 15.		
1441 141	anuRei		Date	

PNNL	TIBO WO Due 03.	020 51 19-	03/6		CHAIN	1 OF (CUSTODY/	SAMPLE ANALY	YSIS R	EQUEST	ı	C.O.C. #	S07-012-28	84	
Collector Fiu	or Hanford	.,			C	Contact/Re		,		Telephone No.	N	MSIN	FAX	$\overline{}$	
SAF No.	SICKLE	~~~~			s	Dot Stew Sampling C				509-376-5056 Purchase Order/	509-376-5056 rchase Order/Charge Code				
S07-012			***************************************			Hanford S	Site								
Project Title SURV, DECEM	BER 2006					H	INF-N-506-	2		Ice Chest No. 5	1465-115	Temp.			
Shipped To (Lab) Severn Trent Inc.		1.1				Method of S Govt. Vel				Bill of Lading/Ai	r Bill No.				
Protocol	ODOINEG, KIC	HIMIO	Marie State		-	GOVI. VE		ority: 45 Days		Offsite Property	No.				
SURV POSSIBLE SAMP ** ** Contains Rac releasable per DOE Or	lioactive Materia	l at cor	ncentrations that	are not regulat	ted for transport	lation per 49		SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all l closure of 14 days. WSCF: Batch all PNNL GW samp	•	s submitted under A,	G, I, S, and W		nption: Yes V No ne SDG, not to exceed S		
Sample No.	Lab ID	*	Date	Time	No/Type C	Container		Sample A	nalysis				Preservative	J	
B1LCH5		W	2-1-7	251	1x20-mL		Activity Scan	T.			None				
B1LCH5		W	7 1	1	1x500-mL	G/P	UTOT_KPA: Uran	ium (1)			HNO3 to pl	H <2			
				1											
								JNV	W3						
														wiini	
					<u> </u>									***************************************	
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Relinquishno By R. T. SICKLE	P/Pring		Sign	F	EB 0 1	2007	Received By E Pauly	Print Sign ERIC Danley	FE	Date/Time B 0 1 2007	s	= Soil	Matrix * DS = Drum		
Relinquished By Relinquished By					Date/Tii		Received By Received By	£		Date/Time	SF SC SI W O) = Solid = Sludge = Water	DI. = Drim T = Tissu WI = Wine L = Liqui V = Vege	ne e nid	
							,				A	= Air	X = Other		
Relinquished By					Date/Ti	me	Received By			Date/Time	1			***************************************	
FINAL SAMPL DISPOSITION		Method	d (e.g., Return to	customer, per	lab procedure,	used in proce	ess)	Disposed By				Dat	e/Time	***************************************	

PNNL J7	B0203 W05.	316	, 7	į	CHAI	N OF (CUSTODY/	SAMPLE A	NALYSIS	REQUEST	C.O.	C.# S07-012-268 Page 1 of 1	
Collector Fluo	r Hanford SICKLE			// // // // // // // // // // // // //		1	ontact/Requester Telephone No.					FAX	
SAF No.	OIVILE					Dot Stew Sampling C	rigin			509-376-5056 Purchase Order/C	Charge Code		
S07-012 Project Title						Hanford				Ice Chest No.	2	2222	
SURV, DECEME	ER 2006						F-N-506	- 2		·····	AWS-115T	-111p-	
Shinned To (Lab) Severn Trent Inco	morated. Ric	hland				Method of Govt. Ve	•			Bill of Lading/Air	Bill No.		
Protocol SURV		ladnis (advisatel elece			NAMES OF THE PERSON OF T			ority: 45 Days		Offsite Property N	Vo.		
POSSIBLE SAMPI ** ** Contains Radi eleasable per DOE Ord	oactive Materia	l at con	centrations that	are not regulat	ed for transp	ortation per 49	CFR but are not	closure of 14 days.	F: Batch all PNNL sam	ld Time ples submitted under A, C ed into one SDG, daily c	G, I, S, and W 07 SAFs	Exemption: Yes No into one SDG, not to exceed SD	
Sample No.	Lab ID	*	Date	Time	No/Type	e Container Sample Analysis L P Activity Scan None					Preservative		
B1LCD8		W	2-1-07	1204	1x20-mL					lone			
B1LCD8		W	1	1	1x1000-	00-mL G/P UISO_PLATE_AEA: List-1 (3)			HNO3 to pH <2				
B1LCD8		W	-6	4	1x500-m	O-mL G/P UTOT_KPA: Uranium (1)			F	HNO3 to pH <2			
									JNVW7				
						· · · · · · · · · · · · · · · · · · ·	-						
							***************************************				**************************************		
										-			
			,										
						Time (33 0							

Huor Hantord		1		-	FEB 0 1 2507	l	*****		
R. T. SICKLE / Relinquished By		FEB 0 1 2007	Received By	ERT Darley	FEB 0 1 200/	S SE SO SL	= Soil = Sediment = Solid = Shidge = Water	DI. T WI	= Drum Solid = Drum Liqui = Tissue = Wine = Liquid
Relinquished By		Date/Time	Received By		Date/Time	O A	= Oil = Air	v	= Vegetation = Other
Relinquished By		Date/Time	Received By		Date/Time	L	NA		
FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to custo	omer, per lab procedure, used in pro	ocess)	Disposed By			Date/Tir	ne	



D:	ate/Time Received	2/1/07 1330						
	ock Order N.	- III	05/07 NA [] SA	FH. 507-012 NAT				
Sh	ipping Container to		Chain of Custody #	507-012-268,284				
1.		D:	Air Bill #	201001				
2.		Is on shipping container into		NA[] Yes [] NO[]				
3.		Is dated and signed?		NA () Yes (*No ()				
4.	Chain of Cus	tody record present?						
6.	Cooler ternpé	rature:NAM	5. Vermiculite/packing m	Yes (No [] aterials is NA (Wei [] Dry []				
7.				Well Dry []				
8.	Sample holdi Samples havetapecustody	ng times exceeded? :		NA (Yes [] No []				
9	Samples are:		leakıno	riate samples labels				
10.	Sample pH tak Sample Location*For document	PA Samula Call	2 (pH>2 () pH>	ples requiring head space)				
12.	· · · · · · · · · · · · · · · · · · · ·	attonionly. No corrective act	ion needed. Yes ()					
13.	Description of a	alies identified in sample rec nomalies (include sample nu	mbers).	Yes () No H				
The same of the sa	Custodian: 🔏	Many	Date: 24/0	and the same of th				
Cité	ent dample JD	Analysis Requested	Condition	Comments/Action				
Client In	formed on	by	Person companied					
	, pi	00628 98 18.						
Project M	annger		Dute					
LS-023, 9	/03, Rev. 5							

PNNL J78020323
W05107
Due 03-19-07

C.O.C.# S07-001-208

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	Woord	<i>'</i>			CILAI	11 01 1	COSTODIA	SAMILLE ANALL	SIS KEQUES	1		
	Due 03.	19.0	77								Page	<u>1</u> of <u>1</u>
	Tuor Hanford 1. T. SICKLE					Contact/Re			Telephone No 509-376-50		SIN FA	AX
SAF No. S07-001					1. 1./. //	Sampling (Origin			er/Charge Code		
Project Title SURV. JANUA	PV 2007						for - N.50	76-2	Ice Chest No.	5425-115	Temp.	
Shinned To (Lab)		richerolatino de colo				Method of	Shipment		Bill of Lading			
Severn Trent Inc	cornorated, Ric	niand				Govt. Ve		ority: 45 Days	Offsite Prope	rty No.		
SURV POSSIBLE SAMI ** ** Contains Ra releasable per DOE O	idioactive Materia	al at cor	centrations that	are not regulat	ed for transp	ortation per 49		SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all Pl closure of 14 days. WSCF: Batch all PNNL GW sample		r A, G, I, S, and W 0	activity Exempti 7 SAFs into one S	on: Yes V No DDG, not to exceed SDG
Sample No.	Lab ID	*	Date	Time	No/Type	e Container		Sample An	alysis			Preservative
B1LP81		W	2-1-07	1049	1x20-mL	_ P	Activity Scan			None		
B1LP81		W	4	1	1x1000-	mL P	906.0_H3_LSC:	Tritium (1)		None		
								TN V35				
				<u> </u>	 			<u> </u>				
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Retinguished Proof R. T. SICKLE Relinquished By	11/		Sign		Date/	Time 370	Received By En Jank Received By	Print Sign ELic Dealon	FEB 0 1	ne SE	= Soil = Sediment	DS = Dnim Solid DL = Dnim Liqui
Relinquished By				** **********************************	Date/		Received By		Date/Tin	SO SL W	= Solid = Sludge = Water = Oil = Air	T = Tissue WI = Wine L = Liquid V = Vegetation X = Other
Relinquished By					Date/	Time	Received By		Date/Tin	е		
FINAL SAMPI DISPOSITION	, .	Method	(e.g., Return to	customer, per	lab procedure	e, used in proc	ess)	Disposed By			Date/Tir	me



Da	nte/Time Received	11/07	2110011-111-1212(
Cli	ient: PNL	SDG # 24)	05/07	FH. 507-001 NATI
₩(ork Order Number: (J18020323	NA() SA	FH. 507-001 NATI
Shi	ipping Container ID		Chain of Custody # _	507-001,208
Manage .	Custody Seals	On shipping container into		
2.		dated and signed?	ct ⁷	NA [] Yes [NO []
3.		ody record present?	Ĭ	YA [] Yes [WNO[]
4.	Cooler ternner	or record present?		Yes No
6	Number of sam	NA M	5 Vermiculite/packing ma	Yes WNO [] Rerials is NA Wei [] Dry [
7.				The state of the s
8.	Samples have:	times exceeded?		IA (Yes [] No[]
	custody s	eals	hazard	labels
9.	Samples are:in good co	andition	leaking	labels iate samples labels
10.	Sample pH taker	n? NA () pH<	(Only for samp	oles requiring based
11.	Sample Location *For documentat	, Sample Collector Listed? ion only. No corrective act		Yes No[]
2.	Were any anomal	ies identified in sample rec	ion needed.	190 []
3.	Description of an	omalies (include sample nu	enpt? mbers)	Yes () NO ET
	Custodian:		Date: 2/1/0	and a second different function of the contract of the contrac
Clie	ent Sample ID	Analysis Requested	Condition	The same of the sa
				Comments/Action
ent Inf	ormed on	by	Person contacted	
	7, [000 00 10.		
ojeci Mi	anager		Dava	
-023, 9/	103, Rev. 5	- second	Du(c	the state of the s

PNNL J7B020335 W05107
Due 03.19-07

C.O.C.# W07-001-193

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	Due 6	3-19-	07										Page	<u>1</u> of	1
Collector	Fluor H						Contact/Re Dot Stew			Te	elephone No. 509-376-5056	MSIN	FA:	Κ	
SAF No. W07-001		Vomez)					Sampling C Hanford			Pı	urchase Order/C	Charge Code			
Project Titl		17						NF-N-50	6 3	Ic	e Chest No.	less	Temp.		
Shinned To				annonament and a			Method of Govt. Ve	Shipment		Bi	ill of Lading/Air	Bill No.			
Protocol RCRA		Cil. Kitimai	Milwoon	42 ************************************	CONTRACTOR OF THE PROPERTY OF		GOVE. VC		ority: 45 Days	O	ffsite Property !	No.	, , , , , , , , , , , , , , , , , , , ,		
POSSIBLE ** ** Con	E SAMPLE HA ntains Radioactive r DOE Order 540	Material at	concentratio	S ons that a	re not regulate	ed for transpo	ortation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all closure of 14 days. WSCF: Batch all PNNL GW samp	PNNL samples s	submitted under A,	G, I, S, and W 07 S	vity Exemptio AFs into one SE		
Sample	e No. La	ıb ID *	* Da	ite	Time	No/Type	Container		Sample A	nalysis			P	reservativ	e
B1LRH3		V	V 2-1-	07	1216	1x20-mL	. P	Activity Scan			1	Vone			
B1LRH3		v			4	1x1000-r	nL P	9310_ALPHABE	TA_GPC: Alpha + Beta (2)		ł	-1NO3 to pH <2			
			 '							· · · · · · · · · · · · · · · · · · ·					,
						<u> </u>			JNV31						
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				\longrightarrow											<u></u>
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	ed By F luor Hanfor F. M. HALL	Print		Sign	A/F	EB 0	1 2007	Received By	Print Sign	F	EB UT 200		Mat Soil		Drum Solid
Relinquishe	ed By				/	Date/		Received By			Date/Time	SO = SL = W =	Sludge Water	T = WI = I. =	= Drum Liqui = Tissue = Wine = Liquid
Relinquishe	ed By					Date/	Time	Received By			Date/Time		Oil Air		Vegetation Other
Relinquishe	ed By	· · · · · · · · · · · · · · · · · · ·				Date/	Time	Received By	244 247 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		Date/Time	J.			
FINAL S	SAMPLE 1	Disposal Metl	hod (e.g., R	eturn to c	customer, per	lab procedur	e, used in proc	ress)	Disposed By	×600-64-6.			Date/Tin	ie	· · · · · · · · · · · · · · · · · · ·

AND STL

Clier	nt:P6W	SING # WOO	5/07	
Wor	V Order Number 1	78020335	NA[] SAI	FH: WO7-001 NA []
		•	Chain of Custody # _	W07-001-193
2µibi	ping Container ID:	made and the country of the special production and the standard and discovering density in superiors.	Air Bill #	
1.	Custody Seals of	on shipping container inta	4	NA [] Yes [NO []
2.	Custody Seals of	lated and signed?		NA[] Yes M No[]
3.	Chain of Custoc	ly record present?		•
4.			C 1/2	Yes [No []
6.	Number of same	ples in shipping containers	J. Vermiculite/packing m	aterials is NAM Well (1) Dry
7.	Sample holding	times exceeded?	and discount of the control of the c	
8.		tithos exceeded?	. ,	VAD Yes [] No []
0.	Samples have:tape		4	
	custody se	als .	hazardapprop	labels riate samples labels
9.	Samples are:in good co	on white the con-	·	140612
	broken	ашиол	leaking have at	e la catalan
10			(Only for same	r outboles uples requiring head space)
10.	Sample pH taken	? NA() pH-	<5N bH>5() bHP	>9[]
1.	Sample Location	Sample Collegior Linear	O at	
	ror documentat	on only. No corrective ac	ction needed.	Yes Mol)
2.		ies identified in sample re		Yes () No N
3.	Description of an	omalies (include sample n	umbers):	Tes () NO N
		an elementario de la completa del la completa de la completa de la completa de la completa del la com		مين بالميارية و يويد منت المارية الميارية الميارية الميارية الميارية الميارية الميارية الميارية الميارية الميا ويتمارية الميارية و الميارية
ample	Custodian: 1	Am ith		
	ent Sample ID		Date: 00 .07	.07 1445
	cor Sample 1D	Analysis Requested	Condition	Comments/Action
	and the state of t			and the state of t
ient In	formed on	by		
) No a	action necessary; pro-	20 20 20 20	Person contacted	The a security of the security and the security of the securit
,	9/03, Rev. 5	ه المعاونية له المعاولة والموافعة والمعاونية الماسينية والمعاونية والمعاونية والمعاونية والمعاونية والمعاونية	Date	the state of the s

PNNL	J18020339
	Due 03.19.07
	Due 03.19.07

C.O.C.#

S07-001-362

Des	03.19	01	,		CHAL	11 01.	COSTODIA	DAIVIE LIE E	AL VENEZ E ORO .	i cay yani			
Collection Hanfo		-07				Contact/Re	agnostor			Telephone No.	M	Page SIN F.	$\frac{1}{\mathbf{A}\mathbf{X}}$ of $\frac{1}{\mathbf{A}}$
D E PARC						Dot Stew				509-376-5056	IVAG	311\ r.	3.7
SAF No.	e decime of					Sampling C				Purchase Order	/Charge Code		
S07-001 Project Title						Hanford :		as i		Ice Chest No		~ Temp.	
SURV. JANUAF	RY 2007					:	+NI= N-50	<u> </u>	·	Ice Chest No.	ML 599	<u> </u>	
Shinned To (I ah)		eressonmen		Talibur (malayasta) karakala karakala karakala karakala karaka	NHOMEORICAL CONTROL CO	Method of				Bill of Lading/A	ir Bill No.		
Severn Trent Inc Protocol SURV	ornorated, Ric	niana				Govt. Ve		ority: 45 Days		Offsite Property	No.		
POSSIBLE SAMP ** ** Contains Rac releasable per DOE Or	lioactive Materia	l at con	ncentrations that	are not regular	ited for transp	ortation per 49	CFR but are not	closure of 14 days.		•	, G, I, S, and W (Activity Exempt 07 SAFs into one	ion: Yes 🗹 No 🗆 SDG, not to exceed SDG
Sample No.	Lab ID	*	Date	Time	No/Type	e Container			Sample Analysis				Preservative
B1LP41		W	2-1-07	[] 91	1x20-mL	_ P	Activity Scan				None		
B1LP41		W	1	f	1x500-m	ıL P	TC99_ETVDSK_	LSC: Tc-99 (1)			HCI to pH <2		
B1LP41		W	V	V	1x1000-	mL P	906.0_H3_LSC:	Tritium (1)			None		
					ऻ				JNV40				
		\vdash						1	0 N V 70	<u> </u>			
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		\Box								-			
		T											
		†											
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Relinquished By Fluor Har		10	Sign) F	Date/	Time / 7 1 1 2 1 1 2 1 1 7 1	Received By	Print (· Sign	FFR Date/Time			atrix *
D. E. PAR Relinquished By	CHEAL			7			Received By	<u>π ο η</u>		Date/Time	SE SO SL	= Soil = Sediment = Solid = Sludge	DS = Drum Solid DL = Drum Liqui T = Tissue WI = Wine
Relinquished By					Date/	Time	Received By	And the second s		Date/Time	W O A	= Water = Oil = Air	I. = Liquid V = Vegetation X = Other
Relinquished By					Date/	/Time	Received By			Date/Time			
FINAL SAMPL DISPOSITION		Method	l (e.g., Return to	customer, per	r lab procedur	e, used in proc	ess)	Ε	Disposed By			Date/T	ime

PNNL				1	СНАІ	N OF (CUSTODY/	SAMPLE ANALYS	SIS REQUEST	I	O.C.# S07-00 Page <u>1</u> of	
CollectorFluor Ham	ford					Contact/Re	guester		Telephone No.	MSIN	FAX	_
DE PAR	CHEN		······································			Dot Stew			509-376-5056			
SAF No. S07-001						Sampling O Hanford S			Purchase Order			
Project Title	***************************************	***************************************					F-N-506-1		Ice Chest No.	1 -E 0E	Temp.	
SURV. JANUAR' Shipped To (Lab)	Y 2007					Method of			Bill of Lading/	in Pill No		
Severn Trent Inco	rnorated. Ric	hland				Govt. Ve			Dill Of Laurne/	ar bii No.		
Protocol							Pric	ority: 45 Days	Offsite Propert	v No.		
SURV POSSIBLE SAMPI ** ** Contains Radi releasable per DOE Ord	oactive Materia	l at con	centrations that	are not regulat	ed for transp	ortation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all PNI closure of 14 days. WSCF: Batch all PNNL GW samples		A, G, I, S, and W 07 SA	ity Exemption: Yes Fs into one SDG, not to	✓ No exceed SDG
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample Anal	vsis		Preservat	ive
B1LNP3		w	2-1-07	M57	1x20-ml		Activity Scan		,	None		
B1LNP3		w	4 (V	1x500-m		TC99_ETVDSK_I	_SC: Tc-99 (1)		HCl to pH <2		
		1	<u> </u>	V								
												
	***************************************								V V 4 K			
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Relinquished By Fluor Han D.E. PAR	ford Print CHEN ()G	Sign	— FFE	012	2007	Received By	A Sign Sign	Pare/Time	37 s = 5		= Drum Solid = Drum Liqui
Relinquished By Relinquished By				<u>ک</u>	Date/	Time	Received By		Date/Time	SO = 8 SL = 8 W = V	Solid T Sludge WI Water I. Dil V	= Tissue = Wine = Liquid = Vegetation = Other
Relinquished By			,		Date/	Time	Received By		Date/Time			
FINAL SAMPLE DISPOSITION	Disposal I	Method	(e.g., Return to	customer, per	lab procedur	e, used in proce	ess)	Disposed By		and the second of the second o	Date/Time	



Date/	Time Received: 02	-61-07 1445		
Clien	1: P6W	SDG #: WO	5107 NAIL	SAF 11: 507-001 NA
Work	Order Number:	18020339	Chain of Custoe	NA NA NA NA NA NA NA NA
Shipp	ing Container ID:			
1.		shipping container intac	5	NA () Yes N No ()
2.	Custody Seals dat	ed and signed?		NA() Yes (No()
3.	Chain of Custody			You the same
4,	Cooler températur	e:NAV 5	.Vermiculite/nacki	ng materials is NA Net [] Dry []
6.	Number of sample	s in shipping container:_	2	The materials is NA Met [-] Dry []
7.	Sample holding tir	nes exceeded?	,	
8.	Samples have:tape			NA / Yes[] No[]
	custody seal	;		azard labels Propriate samples labels
9.	Samples are:in good concbroken	ition	le	aking.
10.	Sample pH taken?	NA() pH<	SA DHOSN	r samples requiring head space) DH>011
11.	Sample Location, S *For documentation	ample Collector Listed? I only. No corrective act	4.	Yes M No[]
12.	Were any anomalie.	s identified in sample rec	eipt?	Yes () NOM
13.	Description of anon	nalies (include sample nu	inbers):	I GS [] NO N
h		· ·	to the photographic specific survey to an extensive property of the party of the pa	
	Custodian:	. Smith	Date:	2.01.07 1445
Clier	nt Sample ID	Analysis Requested	Condition	and the second s
				Comments/Action
Client Info	ormed on	DV		tacted
() No ac	ction necessary; proces	s as is.	Person con	lacted
			rs.	
LS-023, 9/	703, Rev. 5	Angeles managed agreement and produces of the Control of School in Progression in School of School in School of School in School of Scho	Date	

PNNL J7B050/32
Due 03-19-07
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C.O.C.# CA7 AA1 20A

06	WO516	91	7	:	CHAII	V OF	CUSTODY/	SAMPLE ANAL	YSIS REQUEST		507-001-200
Nice	L <i>VJ</i> 1 Puor Hanfor										Page $\underline{1}$ of $\underline{1}$
ollector	F. M. HALL	ω.				Contact/Re			Telephone No. 509-376-5056	MSIN	FAX
F No. S07-001						Sampling (Hanford)rigin		Purchase Order/Cha		-
oject Title SURV, JANUAR	V 2007						F-N-50	6 3	Ice Chest No. 255	Ter	np.
nned To (Lah)						Method of	Shipment		Bill of Lading/Air Bi		-
Severn Trent Inco otocol SURV	ornorated. Ric	hland				Govt. Ve		ority: 45 Days	Offsite Property No.		
DSSIBLE SAMP ** Contains Rad casable per DOE Or	lioactive Materia	ıl at cor	centrations that	are not regulat	ted for transpo	rtation per 49	CFR but are not	closure of 14 days.	6 Hold Time Il PNNL samples submitted under A, G, I mples submitted into one SDG, daily closs	, S, and W 07 SAFs in	exemption: Yes V No lato one SDG, not to exceed SDG
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample A	Analysis		Preservative
1LP03						Р	Activity Scan		Nor	ne	
31LP03		W	4	1	2x4000-m	nL G/P	I129LL_SEP_LEF	PS_GS_LL: I-129 (1)	Nor	пе	
								JNXL	9		
telinquished Pyarfi			Sign		Date/T	ime /44 1 2007	Received By	Prin Sign	Date/Time) 4 FEB 0 1 200	45	Matrix *
celinquished By			A To		Date/T		Received By		Date/Time	S = Soil SE = Sedin SO = Solid SI = Slude W = Wate	T = Tissue $WI = Wine$
elinquished By					Date/T	ime	Received By		Date/Time	O = Oil A = Air	V = Vegetati X = Other
elinquished By					Date/T	ime	Received By		Date/Time		
FINAL SAMPL DISPOSITION		Method	I (e.g., Return to	customer, per	lab procedure.	used in proc	ess)	Disposed By			Date/Time

PNNLJ78050132 W05107
Due 03-19-07

C.O.C.#

S07-001-306

Du	203.19	-07	,										-	Page	<u>1</u> of	1		
Collector	Fluor Hanfo							Contact/Re		APPROXIMATE AND APPROXIMATE AN		Telenhone No. MSIN FAX 509-376-5056						
SAF No.	f. W. TALL							Sampling Origin Pur					Purchase Order/Charge Code					
S07-001 Project Title					 			Hanford Site					ice Chest No. Poss Temp.					
SURV. JANUAI								HNF-N-506 3 Ice Chest No. P						~ ~~~~				
Shinned To (Lab) Severn Trent Inc		hland			AND RESIDENCES	C058030448000000		Method of S Govt. Ve		r Bill No.								
Protocol SURV						27804F040000440E4				rity: 45 Days		Offsite Property	No.					
POSSIBLE SAME ** ** Contains Ra releasable per DOE Of	dioactive Materia	l at cor	ncentrati	KS ons that	are not	regulate	ed for transpo	ortation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all closure of 14 days. WSCF: Batch all PNNL GW sam	PNNL sampl		G, I, S, and W 07 S	vity Exemptio AFs into one SI				
Sample No.	Lab ID	*	D	ate	Ti	me	No/Type	Container		Sample A	Analysis			Ţ	Preservative	ALCO ALCO ALCO ALCO ALCO ALCO ALCO ALCO		
B1LP09		W	2-1	-07	09	01	1x20-mL	Р	Activity Scan				None					
B1LP09		W		The state of the s			2x4000-ı	nL G/P	I129LL_SEP_LEP	S_GS_LL: I-129 (1)			None					
B1LP09		W					1x500-m	L P	TC99_ETVDSK_L	SC: Tc-99 (1)			HCl to pH <2	· · · · · · · · · · · · · · · · · · ·		***************		
B1LP09		W					1x4000-ı	nL G/P	GAMMALL_GS: L		HNO3 to pH <2							
B1LP09		W					3x1000-ı	nL G/P	SRISO_SEP_PRE	CIP_GPC: Sr-90 (1)		**************************************	HNO3 to pH <2					
B1LP09		W					1x1000-ı	nL P	9310_ALPHABET	A_GPC: Alpha + Beta (2)			HNO3 to pH <2					
B1LP09		W	-	5	4	=	1x1000-i	nL G/P	PUISO_PLATE_A	EA: Pu-238 + 239/240 (2)			HNO3 to pH <2					
										C	TNXL	R						
								1										
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Relinquished By	Print			Sign			Date/	Time 14	Received By / /	Print Sign	***************************************	FEB ^{Date/Time} 20	1445	Mat	trix *			
e M. Hai		Te de		ler		FL	B 0 1	2007	J. Sm Hh	- 3.5m.Th		FED U I ZI		Soil	DS == 1	Drum Solid		
9, 3050 0 0 0 0 0							Date/	Fime				Date/Time	SF. = SO = SI. =	Sediment Solid Sludge Water	DI. = 1 T = 7 WI = 7	Drum Liaui Fissue		
Relinquished By							Date/	Time	Received By			Date/Time	0 =	Oil Air	V = '	Vegetation Other		
Relinquished By							Date/	Γime	Received By			Date/Time						
FINAL SAMPL DISPOSITION	-	Aethod	i (e.g., R	eturn to	custom	er, per l	lab procedure	, used in proce	ess)	Disposed By			***************************************	Date/Tin	ne			

PNNL				The second secon			CHAI	N OF (CUSTODY/S	SAMPLE ANALYSIS I	REQUEST		S07-001-314 age 1 of 1				
Collector	Frior Hamo F. M. HALL	rc		-				Contact/Re			Telephone No.	MSIN	FAX				
SAF No.	R W. HALL							Dot Stew Sampling C			509-376-5056 Purchase Order	5056 Order/Charge Code					
S07-001 Project Title	WAS SHIPM							Hanford			1	!					
SURV. JANUAR	RY 2007					-		141	1F-N-50	063	Ice Chest No.	No. Ress Temp.					
Shinned To (Lah) Severn Trent Inc.	ormonated Die	hland	PARTITION CONTRACT	NAMES OF STREET	cessormous	ENGINEERING SANS		Method of Govt. Ve			Bill of Lading/A	ir Bill No.					
Protocol	ornoraien, Kic	mano	nouse entrensins	and a large of the second sections of the second section of the sec	NACONAL CONTRACTOR	gelouinaiezan troine		Govi. ve		rity: 45 Days	Offsite Property	No.					
SURV POSSIBLE SAMP ** ** Contains Rad releasable per DOE Or	lioactive Materia	l at co	ncentra	RKS itions that	are no	t regula	ted for transpo	ortation per 49				, G, I, S, and W 07 SAFs into	emption: Yes V No one SDG, not to exceed SDG				
Sample No.	Lab ID	*		Date	Ti	ime	No/Type	Container		Sample Analysis			Preservative				
B1LP14		w	2-	1-07	10	15	1x20-mL		Activity Scan	1		None					
B1LP14		W		1	2 -		2x4000-ı	mL G/P	I129LL_SEP_LEP	S_GS_LL: I-129 (1)		None	· · · · · · · · · · · · · · · · · · ·				
B1LP14		W					1x500-m	LΡ	TC99_ETVDSK_L	SC: Tc-99 (1)		HCl to pH <2					
B1LP14		W		- Altanose			1x4000-ı	nL G/P	GAMMALL_GS: L	ist-1 (9)	HNO3 to pH <2						
B1LP14		W		Team and a second			3x1000-ı	nL G/P	SRISO_SEP_PRE	ECIP_GPC: Sr-90 (1)	1	HNO3 to pH <2	***************************************				
B1LP14		W	١.		4	7	1x1000-ı	nL G/P	PUISO_PLATE_A	EA: Pu-238 + 239/240 (2)		HNO3 to pH <2					
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			<u> </u>		ļ		-			JNXM	\leftarrow						
		<u> </u>	<u> </u>							***************************************							
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Relinquished By FIGURE Relinquished By	lanford Print	7		Sign.	, U	F		2007	Received By Received By	Print Sign	Date/Time Date/Time	i	Matrix * DS = Drum Solid t DL = Drum Liqui T = Tissue WI = Wine				
Relinquished By							Date/	l'ime	Received By		Date/Time	W = Water O = Oil A = Air	 I. = Liquid V = Vegetation X = Other 				
Relinquished By				,			Date/	Гіте	Received By		Date/Time		· · · · · · · · · · · · · · · · · · ·				
FINAL SAMPLE DISPOSITION		Method	l (e.g.,	Return to	custon	ner, per	lab procedure	e, used in proce	ess)	Disposed By		D	ate/Time				



Dau Clie	e/Time Received: 6	92.01.07 144 SDG H. W.	05107	SAF H: 507-001- NA []
	TOOLS KIGHTOOL VE	100000	Chain of Custody	# 207-001-280 221 21
Ship	pping Container ID:	a safe a rate of a common transport or the same and a common transport of the same and a common transport or the common transp	Air Bill #	5,500,500,51
1. 2.	Custody Sears	on shipping container int dated and signed?	ac(*)	NA () Yes [NO [)
3.	Chain of Custo	dy record present?		NA[] Yes [No[]
4. 6.	Cooler tempera Number of sam	ture: NA	5.Vermiculite/packing	materials is NAM Wet [1 Dry []
7. 8.	Sample holding Samples have:tapecus(ody so	times exceeded?	haz;	NA [] Yes [] No []
9.	Samples are:in good co	ndition	leak	air hubble
10.	Sample pH taker	. , , , , , , , , , , , , , , , , , , ,	1-5 N DHDSN b	amples requiring head space) H>9 []
	1 Or documental	. Sample Collector Listerion only. No corrective	action needed.	Yes M No[]
13.	Were any anoma Description of an	lies identified in sample omalies (include sample	roceipt?	Yes () Nox)
	Custodian:	. Smith	Date: 02'2	
Cli	ent Sample 1D	Analysis Requested	Condition	Comments/Action
Client In	nformed on	by	Person contac	ted
() (10 :	action necessary; pro	cess as is.		
Project N	lannger	and the second		
LS-023,	9/03, Rev. 5		Annual park Hann with Annu	and the second s

PNNLJ7B050153 W05107 Due 03119.07
Due 03-19-07

C.O.C.#

S07-010-271

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST Page <u>1</u> of <u>1</u> Collector Fluor Hanford Contact/Requester Telephone No. MSIN FAX Dot Stewart 509-376-5056 SAF No. D. E. PARCHEN Sampling Origin Purchase Order/Charge Code S07-010 Hanford Site Ice Chest No. SML 595 Project Title HNE-N-5001 Temp. SURV. OCTOBER 2006 Shinned To (Lab) Method of Shipment Bill of Lading/Air Bill No. Severn Trent Incorporated, Richland Govt. Vehicle Protocol Offsite Property No. Priority: 45 Days SURV SPECIAL INSTRUCTIONS POSSIBLE SAMPLE HAZARDS/REMARKS **Hold Time** Total Activity Exemption: Yes V No ** ** Contains Radioactive Material at concentrations that are not regulated for transportation per 49 CFR but are not All Labs except WSCF: Batch all PNNL GW samples submitted under A, G, I, S, and W 07 SAFs into one SDG, not to exceed releasable per DOE Order 5400.5 (1990/1993) SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL Lab ID Sample No. Date Time No/Type Container Sample Analysis Preservative W B1KPK0 1x1000-mL P 906.0_H3_LSC: Tritium (1) None B1KPK0 W 1x20-mL P Activity Scan None Relinquished By Date/Time Received By Print Date/Time Sign Matrix * FFR O FFR 0 1 D. E. PARCHEN = Soil = Drum Solid = Sediment Relinquished By Date/Time Ŕeceived By Date/Time Drum Liqui = Solid = Tissue = Shidge = Wine = Water = Liquid Relinquished By Date/Time Received By Date/Time = Oil = Vegetation = Air = Other Relinquished By Date/Time Received By Date/Time

FINAL SAMPLE DISPOSITION

Disposal Method (e.g., Return to customer, per lab procedure, used in process)

Disposed By

Date/Time



Date	Time Received:	2-01-07 1445)		
Clie	nt: 15W	SDG #: WC	55107 NA()	SAF# S	707-010 Num
Wor	k Order Number:	78050153			-010-271
Ship	ping Container ID:	ميدة بالجارية والمراوية			
1.	Custody Seals	on shipping container into	OC(?		Yes (YNO []
2.	Custody Seals of	lated and signed?			Yes / No[]
3.	Chain of Custoo	dy record present?			
4,	Cooler tempéra	NA /	5. Vermiculia/pack		Yes / Noll
6.	Number of sam	oles in shipping container	:	ng material	s is NAN Wes (1) Dry
7.		times exceeded?			
8.	Samples have:			NAM	Yes[] No[]
	custody se	als	h	azard labels	amples labels
9.	Samples are:in good cobroken	ndition	le	aking.	
10.	Sample pH taken	? NA() pH	<2() pH>2/	pH>9[]	edening head space)
	Sample Location *For documentat	, Sample Collector Listed ion only. No corrective a	1°1 #:	` ,	Yes W No[]
2.	Were any anomai	ies identified in sample n	oceipi?		Yes [] NOXT
13.	Description of an	omalies (include sample i	numbers):	199	() () () () () () () () () ()
		1 0	and where the filter consequently and the product of the later of the	والمعارضة المدار والمعارضة	of the same is the prophilips of the party of the same of the party of
ample	Custodian:	Smith	Date: Oc	2.01.0	7 1445
Clic	ent Sample ID	Analysis Requested	Condition		the second of th
***************************************			Contanton	de to be the property of the state of the st	Comments/Action
ient In	formed on	byby	Danne	, with a managery of briefly to the property of the property o	ر به به در به در به در به در
) No :	action necessary; pro-	cess as is.	1 cison cor	nacted	و بدو بعد ۱ و موا هم دا چون د در برست و برسانتها با مون که مونت که مونت که برست که برسان که برسان که برسان که
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·023. 9	0/03, Rev. 5	recentation principal states after section () of declaration in a section of the	Date	and the second s	Therefore which the second is presented by the second of t

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C.O.C.#

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Due	03.19.0	7											Page <u>1</u>	of <u>1</u>			
Collector Fluor Han	ford					Contact/Re	quester			Telephone N		MSIN	FAX				
SAF No.K. B. HUL	SE					Dot Stew Sampling C				509-376-5		Code					
S07-001						Hanford				I ui chase Oi	Purchase Order/Charge Code						
Project Title SURV, JANUAR	X 2007						HNF-	Nor	06.2	Ice Chest No	Ice Chest No. Temp.						
Shinned To (Lab)	Y 2007		***************************************		· · · · · · · · · · · · · · · · · · ·	Method of				Bill of Ladir	o/Air Bill No						
Severn Trent Inc.	ornorated. Ric	hland				Govt. Ve		ale	·	Jiii Vi Baaii	DIM IV	·					
Protocol SURV	•						P	Priority:	45 Days	Offsite Prop	erty No.						
POSSIBLE SAMP ** ** Contains Rad releasable per DOE On	lioactive Materia	l at cor	ncentrations that	are not regulat	ed for transp	ortation per 49	CFR but are not	All clos	CIAL INSTRUCTIONS Labs except WSCF: Batch all PN ture of 14 days. CF: Batch all PNNL GW samples		ler A, G, I, S, a	otal Activity End W 07 SAFs in	Exemption: nto one SDG,	Yes V No not to exceed SDG			
Sample No.	Lab ID	*	Date	Time	No/Type	Container			Sample Ana	lysis			Prese	ervative			
B1LP57		W	2.2.07	2859	1x20-mL	. P	Activity Scan				None						
B1LP57		W	1	1	1x1000-	mL P	906.0_H3_LSC	: Tritium	1 (1)		None	din					
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		1															
		I^-							(TN)	XNT							
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Relinquished By Fluor Hamord K. B. HULSE	Print	<u> </u>	Sign	FEB 0	Date/ 2 2007	Time /240	Received By	200/20	Print Sign	Date/T FEB 0 2 2007	ime 1240	S = Soil	Matrix	* DS = Drum Solid			
Relinquished By				-	Date/		Received By			Date/T	ime	SE = Sedin SO = Solid SL = Slude W = Water	nent re	DI. = Drum Liqui T = Tissue WI = Wine			
Relinquished By					Date/	Time	Received By			Date/I	ime	W = Wate O = Oil A = Air		L = Liquid V = Vegetation X = Other			
Relinquished By	, to				Date/	Time	Received By			Date/T	ime						
FINAL SAMPLE DISPOSITION	- 1 -	Method	d (e.g., Return to	customer, per	lab procedure	e, used in proce	ess)		Disposed By				Date/Time				

PNNL 778050154
W05107 Due 03.19.07
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C.O.C.#

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Λ ⁽	WO510'	7,1			CHAIN	OF	CUSTODY/	SAMPLE A	NALYSIS F	EQUEST			0.\-001	-1/9
		.0.7										Page	<u>1</u> of	1
Collector K.B.F	fanford IULSE				C	Ontact/Re Dot Stew				Telephone No. 509-376-5056	MSIN	FA	ιX	
SAF No. S07-001					s	ampling C Hanford)rigin	,	······································	Purchase Order/C	Charge Code	***		
Project Title	21.2007						HNF-N-	176.7.		Ice Chest No.	15	Temp.		
SURV. JANUAF Shinned To (Lab)					N	Aethod of	Shipment	300 2	***************************************	Bill of Lading/Air	Bill No.	·		
Severn Trent Inc Protocol	corporated, Ric	hland				Govt. Ve		ority: 45 Days		Offsite Property I	No.		•	
SURV POSSIBLE SAMP ** ** Contains Rac releasable per DOE Or	dioactive Materia	al at cor	ncentrations that	t are not regula	ted for transport	tation per 49		SPECIAL INSTRUCTAL All Labs except WSCF closure of 14 days.	CTIONS Hold: Batch all PNNL sample L GW samples submitte		G, I, S, and W 07 S.	vity Exemptic AFs into one S	on: Yes 🗹	No Coeed SDG
Sample No.	Lab ID	*	Date	Time	No/Type C	Container			Sample Analysis				Preservative	:
B1LP58		W	2207	0859	1x20-mL		Activity Scan				None			
B1LP58		W	1	<u> </u>	1x1000-m	LP	906.0_H3_LSC: 1	ritium (1)			None	***		
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			1		1					l	***************************************			
Relinquished By Fluor Hanfo K. B. HULS	Print Print	2	Sign	FEB (Date/Tir 2 2007 Date/Tir			Print FRIT Date	Sign FEB 1	2 2007 /2 Date/Time	(1) S = SE =			Drum Solid Drum Liqui
Relinquished By					Date/11	HE	Received By		,	Date/Time	SO = SL =	Solid Sludge	T = WI =	Tissue Wine
Relinquished By					Date/Tir	me	Received By	***************************************		Date/Time	0 =	Water Oil Air	V =	Liquid Vegetation Other
Relinquished By					Date/Tir	me	Received By			Date/Time		***		
FINAL SAMPL DISPOSITION		Method	l (e.g., Return to	customer, per	lab procedure,	used in proce	ess)	Dis	posed By			Date/Ti	me	

PNNL 778050154 W05107	
Due 03.19.07	
Nice 05 11 01	

C.O.C.# CO7 001 204

n 2	2 03.19	100		:	CHAI	N OF (CUSTODY	Y/SAN	APLE AN	ALYSI	SRE	QUEST	1		307	נטט-	-374	
Nu	2 03 17	0/												P	age <u>1</u>	of	1	
Collector K. B. HU	ILSE			,		Contact/Re						phone No.		MSIN	FAX			
SAF No. S07-001	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,					Sampling C Hanford)rigin	· · · ·				chase Order		de				
Project Title SURV. JANUAF	PV 2007		i			Hamou	HNF-	N. 60	06-2		Ice (Chest No.	(15 Temp.					
Shinned To (Lab)	Metallocation and control of the second cont	namanan maran			esperante productiva de la companya	Method of	Shipment				Bill	of Lading/A	Air Bill No.					
Severn Trent Inc Protocol SURV	cornorated. Ric	hland				Govt. Vehicle Priority: 45 Days Offsite Property No.							No.					
POSSIBLE SAMP ** ** Contains Rac releasable per DOE Or	dioactive Materia	l at cor	centrations that	are not regulat	ed for transpo	ortation per 49		SPEC All La closur	TAL INSTRUC abs except WSCF: re of 14 days. F: Batch all PNNL	Batch all PNNL	•	mitted under A	, G, I, S, and	al Activity Exc W 07 SAFs into	emption: one SDG,	Yes v	No Careed SDG	
Sample No.	Lab ID	*	Date	Time	No/Type	Container			S	ample Analysis	s				Pre	servative	e	
B1LPF9		W	2.207	0953	1x20-mL	. P	Activity Scan						None				h	
B1LPF9		W	1	1	2x4000-ı	mL G/P	I129LL_SEP_L	EPS_GS	_LL: I-129 (1)				None					
B1LPF9		W	d	0	1x1000-ı	mL P	906.0_H3_LSC	C: Tritium ((1)				None					
										JNXN	12							
			:															
_																		

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		<u> </u>		<u> </u>						***************************************			<u> </u>					
Relinquished By Fluor Hanfo K. B. HULS	Print E	Zu	Sign	FEB n	/		Received By En Darl	y E	Print RiE Dan O	Sign FEB 1	2 200			= Soil E = Sedimer	Matrix	DS =	Drum Solid Drum Liqui	
Relinquished By					Date/		Received By					Date/Time	S	O = Solid L = Sludge		T = WI =	Tissue Wine Liquid	
Relinquished By					Date/	Time	Received By					Date/Time	O A				Vegetation Other	
Relinquished By					Date/	Time	Received By	,				Date/Time					· · · · · · · · · · · · · · · · · · ·	
FINAL SAMPL DISPOSITION	1	Method	(e.g., Return to	customer, per	lab procedure	e, used in proce	ess)		Disp	osed By				D	ate/Time			

PNNL T18050154 W05107
Due 03.19.07

C.O.C.#

\$07.001.420

	W051	27			CHAI	NOF	CUSTODY	SAMPLE ANAI	LYSIS F	ŒQUEST	Ì	ادا	U / -UU 1 -4.	40
De	W0510 se 03	19-0	07									Page	<u>1</u> of <u>1</u>	
Collector Fluor Ha	anford					Contact/Requester Telephone No. MSIN Dot Stewart 509-376-5056						FA FA	X	
SAF No. S07-001			···			Sampling (Hanford)rigin			Purchase Order/Charge Code				
Project Title SURV. JANUA	DV 2007						NF- N-5	10· 7 -		Ice Chest No. 115 Temp.				
Sh <u>inned To (Lah)</u>						Method of	Shipment			Bill of Lading/Ai	r Bill No.			
Severn Trent Inc Protocol	cornorated. Ric	hland			estal montanament concentration	Govt. Ve	,	- kt		Offsite Property	No			
SURV							Pri-	ority: 45 Days					, <u>, , , , , , , , , , , , , , , , , , </u>	
** ** Contains Ra releasable per DOE O	dioactive Materia	al at cor	ncentrations that	t are not regulat	ted for transpo	ortation per 49	CFR but are not	SPECIAL INSTRUCTION All Labs except WSCF: Batch closure of 14 days. WSCF: Batch all PNNL GW s	all PNNL sampl		G, I, S, and W 07 S	vity Exemption AFs into one Signature	on: Yes V No DG, not to exceed	SDG
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample	e Analysis				Preservative	
B1LPD1		W	2207	1207	1x20-mL	. P	Activity Scan				None			
B1LPD1		W	1	Ĺ	1x1000-ı	mL P	906.0_H3_LSC:	ritium (1)			None			
								JNX	(N3_					
		<u> </u>												
				<u> </u>										
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		1												
Relinquish ëd Ry He K. B. Hl	anford Print		Relse	FER N	Date/	Time 1740	Received By	Print Sign		Date/Time	70	Ma	trix *	
Relinquished By		> <i>U</i>	week.	8 620 0 4	Date/	Гіте	Received By	Exil Dylly	FER U Z	Date/Time	SE = SO = SL =	Soil Sediment Solid Sludge Water	DS = Drur DI = Drur T = Tissi WI = Wind	m Liani me ne
Relinquished By					Date/	l'ime	Received By			Date/Time	0 =	Oil Air	I. = Liau V = Vege X = Othe	etation
Relinquished By					Date/	Гime	Received By			Date/Time	*			
FINAL SAMPL DISPOSITION		Method	l (e.g., Return to	customer, per	lab procedure	e, used in proce	ess)	Disposed B	у			Date/Tin	me	



Da	ne/Time Received:	2/1/07 1030		
Cli	ient: PNL	SDG HWO	5/07 NACL SAF	11.507.001 NATI
			Chair of a	CAT
Shi	pping Container II	S On Shipping	Air Din "	304-001,178,179,394,420
1.	Custody Seal	s on shipping container inta	A19	
2.		s dated and signed?	V.	IA () Yes (NO()
3.		ody record present?	Й	A[] Yes [NO[]
4.	Cooler terms	end record present?		Yes Linol:
6	Number of sa	NA W	5. Vermiculite/packing mas	Yes [No [] Terials is NA [Wei [] Dry []
7.		· · · · · · · · · · · · · · · · · · ·	4	
8.	Samples have:	g times exceeded?		A () Yes () No ()
	custody	seals	hazard le	abels ale samples labels
9.	Samples are:in good cbroken	ondition	leaking.	ate samples labels
10.	Sample pH take	n Samala Call	Only for sample 2[] pH>2 pH>9	les requiring band
		mononly. No corrective act	ion needed.	Yes (4 No ()
12.	Were any anoma	alies identified in sample rec	eim?	Yes () No
* v .	nescribtion of a	nomaties (include sample nu	mbers).	30 () 140 (
	Custodian:	Ene Duby	Date: 2/2/0	
Cire	nt Sample 1D	Analysis Requested	Condition	
	Annual desiration of the second secon			Comments/Action
Client Infi	ormed on	by		
[] No ac	ction necessary; pro	CC25 25 is	Person contacted	
		0000 115 15.		
LS-023, 9/	103. Rev. S		Date	

PNNL J78050/58	
WO 5107 Due 03:19:07	
Nue 03.14.07	

C.O.C.# S07-001-226

Nue	03.19	·D'/									Page	<u>1</u> of <u>1</u>	
CollectorOR HANF				Contact/Requester Telephone No. Dot Stewart 509-376-5056							SIN FA	AX	
SAF No. S07-001						Sampling C Hanford			Purchase Order/Charge Code				
Project Title SURV, JANUAR	V 2007		W. F. A. W. C.	WITH EAST OF THE SECOND SE		Trantolo	HMF-N-5	:06-4	Ice Chest No. C	Ice Chest No. 54C - 562 Temp.			
Shinned To (Lab)		delectable delected				Method of				Bill of Lading/Air Bill No.			
Severn Trent Inco Protocol	rnorated, Ric	hland				Govt. Ve			Offsite Property	v No			
SURV		0.00.00					Prio	rity: 45 Days		***************************************			
POSSIBLE SAMPI ** ** Contains Radi releasable per DOE Ord	oactive Materia	at cor	ncentrations that	are not regulat	ed for transp	ortation per 49	CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all PNN closure of 14 days. WSCF: Batch all PNNL GW samples		A, G, I, S, and W	Activity Exempti 07 SAFs into one S	ion: Yes M N	Io L ISDG
Sample No.	Lab ID	*	Date	Time	No/Type	Container		Sample Analy	rsis			Preservative	
B1LP93		W	2/2/7	G846	1x20-mL	. P	Activity Scan			None			
B1LP93		W	1	1	2x4000-ı	mL G/P	L	S_GS_LL: I-129 (1)		None			
B1LP93	M	W	Y	V	1x1000-ı	mL P	906.0_H3_LSC: Ti	ritium (1)		None			
			` `						·····				
								$\mathcal{J}N$	XPG-	<u> </u>			

								- Militar			***************************************	·····	
L		L		<u> </u>	<u> </u>		<u> </u>			<u> </u>			
Relinquished By	Print	'U	Sign	FEB 0	Date/ 2 2007 Date/	Time 1250	Received By Received By	Print Sign Ekel Orly FE	B 0 2 2007 Date/Time	S SE	Ma = Soil = Sediment = Solid = Sludge	DI. = Dm T = Tis	ssue
Relinquished By					Date/	Гime	Received By		Date/Time	W O A	= Singe = Water = Oil = Air	I. = Lia	ouid getation
Relinquished By					Date/	Γime	Received By		Date/Time				
FINAL SAMPLE DISPOSITION	Disposal M	1ethod	(e.g., Return to	customer, per	lab procedure	e, used in proce	ess)	Disposed By			Date/Ti	ime	-

PNNL J7B05015-8
W05107
Due 03.19.07

C.O.C.# S07-001-214

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A)	ue 03.	19.0	27						ORO RUE	QUEDE		Page 1	of <u>1</u>	
Collector M.R. WEI	'Oñl L					tact/Req				lephone No. 509-376-5056	MSI			
SAF No. S07-001					Sam	pling Or anford S	igin			rchase Order/C	harge Code		T	
Project Title SURV. JANUAR	Y 2007		***************************************				HF-N-	506 - 4	Ice	Ice Chest No. SWC - 562 Temp.				
Shinned To (Lab) Severn Trent Inco		hland	CONTRACTOR OF THE PROPERTY OF			hod of S ovt. Veh	hipment icle		Bil	l of Lading/Air	Bill No.			
Protocol SURV			Section and the control of the contr	Resource representation of the company of the compa				rity: 45 Days	Of	fsite Property N	lo.			
POSSIBLE SAMP ** ** Contains Rad releasable per DOE Ore	ioactive Materia	l at con	centrations that	are not regulate	ed for transportation	on per 49 (CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all PN closure of 14 days. WSCF: Batch all PNNL GW sample:	-	abmitted under A, (6, I, S, and W 07	tivity Exemption: SAFs into one SDG		
Sample No.	Lab ID	*	Date	Time	No/Type Cont	tainer		Sample Ana	ılysis			Pre	servative	
B1LP84		W	2/2/7	6957	1x20-mL P		Activity Scan			١	lone	-		
B1LP84		W	•		2x4000-mL (G/P	I129LL_SEP_LEP	S_GS_LL: I-129 (1)	···	١	lone			
B1LP84		W	V	4	1x1000-mL F)	906.0_H3_LSC: T	ritium (1)		١	lone			
								JNX7	PQ					
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RALUGRABY M.R. WEIL	Print		Sign	3 0 2 20	Date/Time (2 5		Received By En Douly	Print Sign ER? (June, FEI	B 0 2 20	Date/Time		Matrix	(* DS = Dm	ım Solid
Relinquished By	######################################			<u>r an liter sedi an</u>	Date/Time	T.	Received By			Date/Time	SE = SO = SL =	= Sediment = Solid = Sludge	DI. = Dru T = Tiss WI = Wir	m Liaui sue ne
Relinquished By					Date/Time	I	Received By			Date/Time	O =	Water Oil Air	 L = Lion V = Ves X = Oth 	getation
Relinquished By					Date/Time	I	Received By			Date/Time	1		100	
FINAL SAMPLE DISPOSITION	- 1 -	Method	(e.g., Return to	customer, per	lab procedure, used	in proces	ss)	Disposed By				Date/Time		

PNNL J78050158
111100101
Due 03.19.07
JOCCE O

C.O.C.# CO7 001 100

^	W0316	10			CHAIN O	F CUSTODY	/SAMPLE ANALY	SIS REQUEST	`	20/-001-130		
Ale	W0319. L03.19.	0/								Page <u>1</u> of <u>1</u>		
Collector M.R.	WEIL					/Requester	FAX					
SAF No.					Samplir	Dot Stewart 509-376-5056 Sampling Origin Purchase Order/Charge Code Hanford Site						
S07-001 Project Title			***************************************		Hanto	HMF-M-	<u> </u>	Ice Chest No.	1 CT >	Temp.		
SURV. JANUAI Shinned To (Lab)					Method	of Shipment	3-0-1	Bill of Lading/A				
Severn Trent Inc		hland				Vehicle	and Samuel Control of the Control of					
Protocol SURV						Pr	iority: 45 Days	Offsite Property	No.			
** ** Contains Racreleasable per DOE O	dioactive Materia	al at con	centrations that	are not regula	ted for transportation pe	er 49 CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all F closure of 14 days. WSCF: Batch all PNNL GW samp		, G, I, S, and W 07 S	ivity Exemption: Yes V No AFS into one SDG, not to exceed SDG		
Sample No.	Lab ID	*	Date	Time	No/Type Contain	er	Sample Ar	alysis		Preservative		
B1LP66		W	2/2/7	1038	1x20-mL P	Activity Scan			None			
B1LP66		W			2x4000-mL G/P		EPS_GS_LL: I-129 (1)		None			
B1LP66		W	· ·	,	1x1000-mL P	906.0_H3_LSC:	Tritium (1)		None			
										The state of the s		
		-		ļ			$\mathcal{J}N$	XPW		· · · · · · · · · · · · · · · · · · ·		
		-		<u> </u>		,						
		-		<u> </u>								
		1										
				<u> </u>	<u> </u>					· · · · · · · · · · · · · · · · · · ·		
Rel FiglifOR HAN M.R. WE	FORD Print	W W	Sign	FEB 0	2 2007 Time	Received By En Jul	Print Sign	Date/Time FEB 0 2 2007 / 2	-50) s =	Matrix * Soil DS = Drum Solid		
Relinquished By		-	ž		Date/Time	Received By	,	Date/Time	SE = SO = SL =	Sediment DI = Drum Liqui Solid T = Tissue Sludge WI = Wine Water I = Liquid		
Relinquished By					Date/Time	Received By		Date/Time	0 =	Oil V = Vesetation Air X = Other		
Relinquished By				'	Date/Time	Received By		Date/Time				
FINAL SAMPL DISPOSITION		Method	(e.g., Return to	customer, per	lab procedure, used in p	process)	Disposed By			Date/Time		

MINI STL

Dat	e/Time Received:	2/2/07 1250										
Clie	ent: Pal	SDG #: <u>ω</u>	05707 NAII	SAF H: 507-001 NA								
Wo	rk Order Number:	178050158	Chain of Cuero	by # <u>S07-001-226,214,190</u>								
Ship	pping Container ID:		Air Bill #	301-201-226,214,190								
1.		On shipping container into	IIC(?	Natra								
2.	Custody Seals	dated and signed?		NA () Yes (V No ()								
3.	and of Custody record present?											
4,	Cooler ternpera	nture:NA Lib	S. Vermiouting	Yes (No[] ng materials is NA (Wet[] Dry []								
6.	Number of sam	aples in shipping container	3	ng materials is NA (Wet [-) Dry []								
7.		times exceeded?	1	NA 1254								
8.	Samples have:		ha	NA (Yes f) No ()								
9	Samples are:	•		propriate samples labels								
10.	broken		(Only to	ve air bubbles r samples requiring head space.								
	Sample pH take	, , , , , , , , , , , , , , , , , , ,	(3() bH>5H	pFL>9[]								
en e	Sample Location *For documenta	n, Sample Collector Listed tion only. No corrective a	? * oction needed.	Yes (No (
12.	Were any anome	ilies identified in sample r	oceip(?	Yes () No [)								
	Description of ar	nomalies (include saraple i	numbers):	Yes () No ()								
Sample	Custodian: Z	Doub	Date: c	7/0/								
CII	ent Sample 1D		1.) 11(e;	12107 1250								
		Analysis Requested	Condition	Comments/Action								
Client In	iformed on,	by										
() No:	action necessary; pro	occss as is.	Person con	acted								
US-023, 9	9/03, Rev. 5	a designation of the second of	Date									

PNNL J1B050162
WO 5/07

CHAIN OF CUSTODY/SAMDLE ANALYSIS DEOLIEST

C.O.C.# 807-012-514

Dru	203.19	17 9.0	7	,	CHAL	NOF	COSTODIA	SAMILE A	NALISISI	CEQUES I		Page	1 of 1	
Collector G. HO	GAN					Contact/Re				Telephone No.	MSI			
SAF No. S07-012						Dot Stewart Sampling Origin Hanford Site				509-376-5056 Purchase Order/Charge Code				
Project Title SURV, DECEMBE	FR 2006						VF-N-506	/		Ice Chest No SMC 545 Temp.				
Shinned To (Lab) Severn Trent Incor	***************************************	hlond		ekonyministry popolyteki kalalanjesia.	Girlan spirate (material security design	Method of Govt. Ve	Shipment			Bill of Lading/Ai	r Bill No.			
Protocol SURV	TRII ATCAT. TXIC	MANAGEMENT	GETTER CHARLES AND CONTROL CON	NOTICE TO SERVICE THE PROPERTY OF THE PROPERTY		GOVI. VE		ority: 45 Days		Offsite Property	No.			
POSSIBLE SAMPLI ** ** Contains Radio releasable per DOE Orde	active Materia	l at cond	centrations that a	are not regulat	led for transpo	ortation per 49	CFR but are not	closure of 14 days.	CTIONS Hold F: Batch all PNNL samp NL GW samples submitte		G, I, S, and W 07 S	ivity Exemption	n: Yes V N	No Land 1 SDG
Sample No.	Lab ID	*	Date	Time	No/Type	Container			Sample Analysis			P	reservative	
B1LC48		_	2-2-07	1152	1x20-mL		Activity Scan				None			
B1LC48		W	V	↓	2x4000-r	mL G/P	I129LL_SEP_LEI	PS_GS_LL: I-129 (1)			None			
									TNXRL					
D.111.1D	D: .	A—				K710								•
Relinquished By	Print		7 L ngn		FR 0 2		Received By English	Print Exix Dan	Sign /	Date/Time	3	Matr		
Relinquished By		-/	NO	,	Date/]	Fime	Received By	Exic Dan	oy -	Date/Time	SI. =	Soil Sediment Solid Sludge Water	DS = Dr DL = Dr T = Tis WI = Wi L = Lio	um Liqui sue ne
Relinquished By					Date/T	Γime	Received By			Date/Time	O =	Oil Air		getation
Relinquished By					Date/1	l'ime	Received By			Date/Time	<u> </u>			
FINAL SAMPLE DISPOSITION	Disposal N	1ethod	(e.g., Return to o	customer, per	lab procedure	, used in proce	ess)	Dis	posed By	**************************************		Date/Time	2	

EMEN GIL

		SDG 11: W 18050162 1005107	Chain of Custoe	dy # 807-012-5	:\^\ (7 Y
Ship	pping Container ID:	يستر فيستان والمستحدين ويتراسين والمستحدين والمستحدين والمستحديث والمستحدد والمستحد والمستحدد والمستحد والمستحدد والمستحدد والمستحدد والمستحدد وال	Air Bill #	in angula I galar de Calamarani in marinda in para minama anterior in a se a coma a service de serv	
1.		on shipping container int	ac('	NA Yes No	
2.	Custody Seals	dated and signed?		NA [] Yes // No	
3.		ody record present?			
4.	Cooler tempera	nure:NA	5. Vermiculia/pook	Yes FNo ng materials is NA W	
6.	Number of san	nples in shipping containe	r: I	ng materials is NA UV	Ver (-) Dr
7.	Sample holding	g times exceeded?	and the state of t	•	
8.	Samples have:		·	NA[] Yes[] No[()
) .	custody s	eals	ha	azard labels Ppropriate samples labels	:
0.	in good c broken Sample pH take			ve air bubbles r samples requiring head	I space)
1.	Sample Location *For documenta	n, Sample Collector Listed tion only. No corrective a	17 w	Yes WNo	(]
Σ.	Were any anoma	nlies identified in sample i	oceip(?		
mple		F. Darry	A commence of the commence of	Yes () No 1 7/2/07 15/0	
	viv carriple 1D	Analysis Requested	Condition	Comments	Action
ent In	formed on			tacted	the manager of the common comm
	A parent languages and a series		Person con	tacted	

PNNLC	178050163 W05107
, pro-	Due 03-19-07

C.O.C.#

S07-001-256

Du	203.19	-07								Page <u>1</u> of <u>1</u>
	יחחי		is HO			tact/Requester		Telephone No. 509-376-5056	MS	IN FAX
AF No. S07-001					Samo	oling Origin anford Site		Purchase Order	Charge Code	
roject Title				,		HNF-N-506 +		Ice Chest No.	50/-	Temp.
SURV. JANUAR nipped To (Lab)	RY 2007					nod of Shipment		Bill of Lading/A		
Severn Trent Inc	orporated. Ric	hland				ovt. Vehicle				
rotocol SURV						Prio	rity: 45 Days	Offsite Property	No.	
OSSIBLE SAMP	lioactive Materia	al at con		are not regulate	ed for transportation	n per 49 CFR but are not	SPECIAL INSTRUCTIONS All Labs except WSCF: Batch all P closure of 14 days. WSCF: Batch all PNNL GW sampl	•	G, I, S, and W 07	ctivity Exemption: Yes V No 7 SAFs into one SDG, not to exceed SI
Sample No.	Lab ID	*	Date	Time	No/Type Conta	ainer	Sample An	alysis		Preservative
B1LPC1		W	2-2-07	1002	1x20-mL P	Activity Scan			None	
B1LPC1		W	-decomposition of	1	2x4000-mL G	G/P I129LL_SEP_LEP	S_GS_LL: I-129 (1)		None	
B1LPC1		W	_		1x1000-mL P	906.0_H3_LSC: T	ritium (1)		None	
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								MANUFACTOR AND THE RESERVE OF THE RE		
Relinquished By	Pfiht	:	Sign		Date/Time 🏌	Received By	Print Sign	Date/Time [Matrix *
Relinquished By		7	140×		2 0 2 2007 Date/Time	Received By	ERIZ Darby	FEB 0 2 201 Date/Time	SE SO SL	= Soil DS = Drum = Sediment DL = Drum = Solid T = Tissue = Sludge WI = Wine
Relinquished By					Date/Time	Received By		Date/Time	0	= Water I. = Liquid = Oil V = Vegetz = Air X = Other
Relinquished By					Date/Time	Received By		Date/Time	•	
FINAL SAMPL		Method	(e.g., Return to	customer, per l	ab procedure, used i	in process)	Disposed By			Date/Time

DIMI STL

Date	e/Time Received: 2/2/07 1500	This Cucck-tu Tist	
Clie	nt: DN SDG # C	W05707 NA (1 CAF	
Wor	k Order Number: <u>U78050163</u>	Chain of Chair	H: SOFCOL NALL
Ship	ping Container ID:		507-001-256
1. 2.	Custody Seals on shipping comaine Custody Seals dated and signed?	the first transfer section of the first section of	YA FI Yes (NOI)
3.	Chain of Custody record present?		NA [] Yes [TNO []
4.	Cooler température: NA (5. Vermiculite/packion	Yes [TNO]
6.	Number of samples in shipping cont	ainer: [Merials is NA Weili Dry]
7. 8.	Sample holding times exceeded? Samples have:tapecustody seals		[A[] Yes[] No[]
9.	Samples are:in good conditionbroken	leaking.	January 1981
10.	Sample pH taken? NA()	Only for sam	ples requiring head spaces
11.	Sample Location, Sample Collector L *For documentation only. No correct	5 10	Yes LY No (1
12. 13.	Were any anomalies identified in sam	ple roceipi?	Yes () No H
	Description of anomalies (include same Custodian: Analysis Page Page Page Page Page Page Page Page	Date: 2/2.	
	ant Sample ID Analysis Requeste	d Condition	Comments/Action
Client In	formed onby	Person contacted	
() No a	oction necessary; process as is.		ر دار این در این در این در
Project N	lanager	Date	
LS-023, 9	7/03, Rev. 5	Transmitted by the same down manufacture	whereas a region of the state o

	2/16/2007 10:14:27	7 AM		Sample P	Preparation/A	nalysis		Balance	ld:1120482733			
	384868, Pacific Nor Pacific Northwest Na			Pu PrpRC5016, Sep Plutonium-238,239		C		Pipet #:				
	AnalyDueDate: 03	/19/2007 🔾	5107 51	CLIENT: HANFORD)		Sep1 DT/Tm Tech:					
	Batch: 7039545 SEQ Batch, Test: Non	WATER	pCi/L	Pl	M, Quote: SA , 5	57671		Sep2 DT/Tm Te	ech:			
	SEQ Batch, rest. Non	e		111			Prep Te	ch: ,BockJ				
	Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Count Time Min	Detector Id	Count On ((24hr) Circl		R Analyst, Init/Date	Comments:		
- 0	1 JNXLR-1-AF		199.70g,in	PUTC10495	200							
39	J7B050132-2-SAMP			01/23/07,pd 08/04/06,r		**************************************			***			
	02/01/2007 09:01	10000000000000000000000000000000000000	AmtRec: 20ML,5	600MLP,5XLP,3X4LP #Con	ntainers: 10		Scr:	Alpha: -3.53E-04 uCi/S	a Beta	: -1.35E-03 uCi/Sa		
1 (°)	2 JNXMG-1-AD		203.60g,in	PUTC10496	and the following of the					·		
40	J7B050132-3-SAMP			01/23/07,pd 08/04/06,r	an opposite the first the second seco	************************				·		
41	02/01/2007 10:15		AmtRec: 20ML,5	00MLP,5XLP,3X4LP #Con	ıtainers: 9		Scr:	Alpha: 1.40E-03 uCi/Sa	a Beta	: -3.04E-04 uCi/Sa		
1	3 JNXMG-1-AH-X		200.90g,in	PUTC10497	The state of the s							
	J7B050132-3-DUP 	· 		01/23/07,pd 08/04/06.r		*********	*****		***************************************			
	02/01/2007 10:15		AmtRec: 20ML,5	00MLP,5XLP,3X4LP #Con	ıtainers: 9		Sor:	Alpha: 1.40E-03 uCi/Sa	a Beta	: -3.04E-04 uCi/Sa		
H2	4 JN6FE-1-AA-B		200.20g,in	PUTC10498	The second of th							
n	J7B080000-545-BLK 			01/23/07,pd 08/04/06,r			***************************************	.======================================				
	02/01/2007 10:15		AmtRec:	#Containers: 1	LAN - P managed		Scr:	Alpha:		Beta:		
	5 JN6FE-1-AC-C		202.90g,in	PUSG0903	V			M				
Ŋ	U7B080000-545-LCS			02/14/07,pd 08/04/06,r								
	02/01/2007 10:15	00000000000000000000000000000000000000	AmtRec:	#Containers: 1			Scr:	Alpha:		Beta:		
	Comments: 814	170 %	2-16-07							111		
	214											
	All Clients for Ba	tch:										
		c Northwest Natio	onal Laboratory	Pacific Northwe	est National Lal	b, SA, 57671	L					
	JNXLR1AF-SAMP Cons PU-238 RDL:		L LCL:	UCL: RPD:	PU-239	RDL:1	pCi/L	LCL:70	UCL:130	RPD:20		
	STL Richland Ke Richland Wa.	•		Amt, s1 - Sep1, s2 - Se ent Cell, ct-Cocktailed A	,	ISV -	Insufficient Volum	e for Analysis	Pre	WO Cnt: 5 p_SamplePrep v4.8.26		

2/20/2007 12:47 384868, Pacific N Pacific Northwest	lorthwest Nation	nal Laboratory ,	7Y Ulso Prp		aration/Ana SepRC5067(503 Alpha Spec	Balance Id:1120482733 Pipet #:						
AnalyDueDate:	03/19/2007 🔪	205107	5I CLIENT:	HANFORD				Sep1 DT/Tm Tech:				
Batch: 7039539	WATER	pCi/L		PM, Q	uote: SA , 576	71		Sep2 DT/Tm Ted	:h:			
SEQ Batch, Test: N	ione							Prep Tec	:h: ,BockJ			
Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:		
1 JNVW7-1-AA J7B020316-2-SAMF			201.50g,in	201.50g	UITC17049 02/12/07,pd 01/20/04,r	JD0 1						
02/01/2007 12:04		AmtR	ec: 20ML,500MLP,LP	#Containers: 3		and the second second	Scr:	Alpha: 4.98E-04 uCi/Sa	Beta: -3.	.30E-04 uCi/Sa		
2 JNVW7-1-AE-X J7B020316-2-DUP			201.30g,in	201.30g	UITC17050 02/12/07,pd 01/20/04,r	And the state of t						
02/01/2007 12:04	MONTH 1	AmtR	ec: 20ML,500MLP,LP	#Containers: 3		Andrew Sentence	Scr:	Alpha: 4.98E-04 uCi/Sa	Beta: -3.	.30E-04 uCi/Sa		
3 JN6E8-1-AA-B J7B080000-539-BLI			201.20g,in	201.20g	UITC17051 02/12/07,pd 01/20/04,r	Annual Confession Conf						
02/01/2007 12:04	10000000000000000000000000000000000000	AmtR	ec: #Co	ntainers: 1		فنده والعالم العالم المالية	Scr:	Alpha:		Beta:		
4 JN6E8-1-AC-C J7B080000-539-LC			200.10g,in	200.10g	UISG1402 02/12/07,pd	V	and the second s					
02/01/2007 12:04		AmtR	ec: #Co	ntainers: 1	01/20/04,r		Scr:	Alpha:		Beta:		
		S 96 Z-ZC	5-01									
All Clients for 384868, Pac		t National Labora	tory Pacif	ic Northwest 1	National Lab,	SA , 57671						
	onstituent Lis DL: DL:1.00E+00	st: pCi/L LCL:2 pCi/L LCL:	0 UCL:105 UCL:	RPD:20 RPD:	U-234 U-238	RDL:1.00E RDL:1.00E				PD: PD:		
	DL: DL:1.00E+00	pCi/L LCL:2 pCi/L LCL:	0 UCL:105 UCL:	RPD:20 RPD:	บ-234 บ-238	RDL:1.00E RDL:1.00E	_			PD: PD:		
STL Richland Richland Wa.	•	.mt, fi - Final Amt, di t, r - Reference Dt, ec			Page 1	ISV - In	sufficient Volum	ne for Analysis		VO Cnt: 4 SamplePrep v4.8.26		

2/19/2007 8:45:32	AM		Samp	ole Prepa	aration/Ana	lysis			Balance lo	d:1120482733	
384868, Pacific Nor Pacific Northwest Na		aboratory ,	AZ Gross Alpha F						Pipet	#: 235	
		- C : 20	S7 Gross Alpha b	-	ng Am-241 cu	ve		Sen	1 DT/Tm Tecl	- 0	
AnalyDueDate: 03 Batch: 7039532	WATER	<u>)510'1</u> pCi/L	0. 02.2		Loto, CA E76	71		_			
SEQ Batch, Test: Nor		pCI/L		PIVI, Q	uote: SA , 576	71		Sep	2 DT/Tm Tecl	,	
									Prep Tecl	h: 'BockJ $/eta$	PA
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count ((24hr)		CR Analyst, Init/Date	Comments:
1 JNV3N-1-AA		200.40g,in			75.8	-50	۰۵	7	1030	2/26/	7110
J7B020335-1-SAMP				115	25.0	T	103	<i>*</i>	-0)0		, (0.
02/01/2007 12:16		AmtRec: 201	лL,LP #Contai	iners: 2			Ser:	Alpha:	-5.13E-05 uCi/Sa	Beta:	1.62E-04 uCi/Sa
2 JNV3N-1-AD-X		201.30g,in			78.6	A CONTRACTOR OF THE CONTRACTOR	. ^ ^ .			Who ever sinespe	
J7B020335-1-DUP	¥	************			2000		100			throst days stay days	
02/01/2007 12:16	10000000000000000000000000000000000000	AmtRec: 201	/IL,LP #Contai	ners: 2			Scr:	Alpha:	-5.13E-05 uCì/Sa	Beta:	1.62E-04 uCi/Sa
3 JNXLR-1-AA		203.40g,in			147.8					**Oli trois age pa	
J7B050132-2-SAMP		***************************************		******	1 1.0		100				
02/01/2007 09:01	MENORAL MENORA	AmtRec: 20I	/IL,500MLP,5XLP,3X4LP	#Containers:	10		Ser:	Alpha	-3.53E-04 uCi/Sa	Beta: -	1.35E-03 uCi/Sa
4 JN6EA-1-AA-B		199.30g,in				Continue of the continue of th	i0A			**************************************	
J7B080000-532-BLK	1 8 21 6 1 180 R SIS				10.4		1011	6	!	With the same of t	
02/01/2007 12:16	TOTAL STATE OF THE PROPERTY OF	AmtRec:	#Containers:	: 1			Ser:	v	Alpha:		Beta:
5 JN6EA-1-AC-C J7B080000-532-LCS		199.70g,in	ASD4124 01/18/07,pd	V	/ 0.3	Y	100	2	138		
20000000000000000000000000000000000000			02/09/06,r		* .		***************************************				
02/01/2007 12:16	i i i i smil s diz	AmtRec:	#Containers:	: 1			Scr:		Alpha:		Beta:
Comments: P	, LZ-0 JB	2-19-01									
All Clients for Ba	ıtch:										
		ional Laboratory	Pacific No	orthwest N	ational Lab,	SA , 5767	1 .				
JNV3N1AA-SAMP Cons ALPHA RDL:		/L LCL:	UCL: R	RPD:							
		fi - Final Amt, di - Dilu	, , ,	,	Page 1	ISV -	Insufficient Volu	me for Ar	nalysis		WO Cnt: 5
Richland Wa.	pd - Prep Dt, r - F	Reference Dt, ec-Enric	nment Cell, ct-Cockta	alled Added						Prep	_SamplePrep v4.8.26

2/19/2007 8:45:37 AM		Samp	le Preparation/A	nalysis		Balance	e ld:1120482733	
		AZ Gross Alpha P	rpRC5014 y GPC using Am-241 o	urve		Pip	oet #:	
AnalyDueDate: 03/19/2007		5I CLIENT: HANF				Sep1 DT/Tm T	ech:	
Batch: 7039532 SEQ Batch, Test: None	pCi/L				****	Sep2 DT/Tm T	ech:	
						Prep T	ech: ,BockJ	
Work Order, Lot, Total Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Ppt or Size Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
N6EA1AC-LCS:	i/L LCL:		PD:					
NV3N1AA-SAMP Calc Info:	Decay to SaDt: Y			ODRs: B				
	ecay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B				
	ecay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B				

Approved By ____

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Date:

2/19/2007 8:40:39	AM		Samp	le Prepai	ation/Anal	ysis			Balance lo	1:1120482733	
384868, Pacific Nort Pacific Northwest Na		• .	BC Gross Beta Pr S8 Gross Beta by		Sr/Y-90 curve				Pipet	#:_ <i>2</i> 35	
AnalyDueDate: 03	/19/2007 💍	005107	51 CLIENT: HANF	ORD				Sep1	DT/Tm Tech	າ:	
Batch: 7039531 SEQ Batch, Test: None	WATER	pCi/L		PM, Quo	ote: SA , 5767	1		Sep2	DT/Tm Tech	1 :	
·									Prep Tecl	n: ,BockJ / ⊢A(> A
Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count Or (24hr) C		CR Analyst, Init/Date	Comments:
1 JNV3N-1-AC J7B020335-1-SAMP		201.40g,in		1.5	46.7	100	26 A) 9	2115	2/26/0	70P
02/01/2007 12:16		AmtRec: 20N	/IL,LP #Contain	ers: 2		and the second s	Scr:	Alpha: -5	.13E-05 uCi/Sa	Beta: 1	.62E-04 uCi/Sa
2 JNXLR-1-AC J7B050132-2-SAMP		200.10g,in		•	62.5	onedite epitale eliza del mai avere;	HB		e de la companya de l		
02/01/2007 09:01	Management Manag	AmtRec: 20N	ML,500MLP,5XLP,3X4LP	#Containers: 10			Scr:	Alpha: -3	.53E-04 uCi/Sa	Beta: -	1.35E-03 uCi/Sa
3 JNXLR-1-AL-X J7B050132-2-DUP		200.40g,in			65.7		26C		de de de descripción de		
02/01/2007 09:01	1	AmtRec: 20N	ML,500MLP,5XLP,3X4LP	#Containers: 10			Scr:	Alpha: -3	53E-04 uCi/Sa	Beta: -	1.35E-03 uCi/Sa
4 JN6D6-1-AA-B J7B080000-531-BLK		201.60g,in		The second	6.3	en operation of the control of the c	26D		ANALAN TO TOTAL TO	ATTA-TENITE AN AUGUST ANGULA	
02/01/2007 09:01		AmtRec:	#Containers:	1			Scr:		Alpha:	** Province Amplications	Beta:
5 JN6D6-1-AC-C J7B080000-531-LCS		200.60g,in	BESB3004 01/23/07,pd 08/08/06.r	1	0.5		27D	Į.	No.	President delication begins to the	
02/01/2007 09:01		AmtRec:	#Containers:	1			Scr:		Alpha:		Beta:
Comments: PH	, LZ.0	JB 2-19-07									
	.c Northwest	National Laboratory	Pacific No	rthwest Nat	cional Lab,	SA , 5767	1				
JNV3N1AC-SAMP Cons BETA RDL:		: pCi/L LCL:	UCL: RI	PD:							
STL Richland Ke Richland Wa.	•	t, fi - Final Amt, di - Dilu r - Reference Dt, ec-Enricl	•	•	age 1	ISV -	Insufficient Volu	me for Ana	ılysis		WO Cnt: 5 _SamplePrep v4.8.26

2/19/2007 8:40:45 AM

AnalyDueDate: 03/19/2007

Sample Preparation/Analysis

BC Gross Beta PrpRC5014 S8 Gross Beta by GPC using Sr/Y-90 curve

Ва	lar	ıce	Id	:1	1	20)4	82	21	′3	3

Pipet #: _____

S8 Gross Beta by GPC using Sr/Y-9 5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 7039531

pCi/L

Sep2 DT/Tm Tech:

SEQ Batch, Test: None

Prep Tech: ,BockJ

Work Order, Lot, Total Sample DateTime Amt/Ur		Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
JN6D61AA-BLK:								5	 	
BETA RDL: 4	pCi/L	LCL:	UCL:	RPD:						
JN6D61AC-LCS:										
Sr-90 RDL:	pCi/L	LCL:70	UCL:130	RPD:20						
JNV3N1AC-SAMP Calc Info: Uncert Level (#s).: 2	Decay 1	to SaDt: Y	Blk Subt.:	N Sci.No	\+ • ▼ (DDRs: B				
JN6D61AA-BLK:	LCCay	co babe. 1	Dir Bube	N BCI.NC	,	DES. B				
Uncert Level (#s).: 2	Decay 1	to SaDt: Y	Blk Subt.:	N Sci.No	t.: Y (DDRs: B				
JN6D61AC-LCS:										
Uncert Level (#s).: 2	Decay (to SaDt: Y	Blk Subt.:	N Sci.No	ot.: Y	DDRs: B				
					Approve	ad Bu			Date:	

Page 2

Sample Preparation/Analysis 2/26/2007 3:40:55 PM Balance Id:1120482733,1120482733,1120 384868. Pacific Northwest National Laboratory . CL Sr-90 Prp/SepRC5006(5071) Pipet #: Pacific Northwest National Lab TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth 5I CLIENT: HANFORD Sep1 DT/Tm Tech: 02/19/2007 15:41.ManisD AnalyDueDate: 03/16/2007 PM, Quote: SA, 57671 Batch: 7039542 WATER pCi/L Sep2 DT/Tm Tech: 02/26/2007 09:32, ManisD SEQ Batch, Test: None Prep Tech: ManisD Work Order, Lot, Total Initial Aliquot QC Tracer Tracer Ppt or Count Detector Count On I Off CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Yield Size Geometry Time Min (24hr) Circle Init/Date ld 1 JNPEH-1-AC 1000.60a.in SRTB14500 1.0 25.7 100 02/12/07,pd 0643 J7A310377-1-SAMP 09/11/06.r 0736 2/W/10 01/31/2007 09:38 AmtRec: 20ML.3XLP.2X4LP Scr: Alpha: 3.34E-04 uCi/Sa Beta: 1.01E-03 uCi/Sa #Containers: 6 1.0 25.5 2 JNXLR-1-AG 1008.00g.in SRTB14501 100 02/12/07,pd J7B050132-2-SAMP 09/11/06,r Beta: -1.35E-03 uCi/Sa 02/01/2007 09:01 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa 3 JNXLR-1-AM-X 993.40q,in SRTB14502 1.0 25.2 100 02/12/07,pd J7B050132-2-DUP 02/01/2007 09:01 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35E-03 uCi/Sa 4 JNXMG-1-AE 1006.50g,in SRTB14503 1.0 25 100 02/12/07,pd J7B050132-3-SAMP 02/01/2007 10:15 AmtRec: 20ML,500MLP,5XLP,3X4LP #Containers: 9 Scr: Alpha: 1.40E-03 uCi/Sa Beta: -3.04E-04 uCi/Sa WO Cnt: 4 STL Richland Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 ISV - Insufficient Volume for Analysis Page 1

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Richland Wa.

Prep_SamplePrep v4.8.26

2/26/2007 3:40:57 PM	datamana da		ample Pre	-	n/Analysi	is		Balance	ld:11204827	33,1120482733,1120
		=	Nal and Sr-9	` '	day ingrow	<i>r</i> th			et #:	
AnalyDueDate: 03/16/2007		51 CLIENT:	HANFORD					Sep1 DT/Tm Te	ech: 02/19/200	07 15:41,ManisD
Batch: 7039542 SEQ Batch, Test: None	pCi/L				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Sep2 DT/Tm Te	ech: 02/26/200	07 09:32,ManisD
,								Prep Te	ch: ,ManisD	
Work Order, Lot, Total Sample DateTime Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analy Init/Dat	· •
5 JN6FA-1-AA-B	 1000.50g,in	SRTB14504	<u> </u>	1.0	25.5	100				
J7B080000-542-BLK		02/12/07,pd 09/11/06,r (0.8730				13	13643	, ⁷ 97/	102
					40,0007.45.44		13	-0734	· 8/28/4	90
					/ 19/200 7-1 5 :41 , s	51, 02/26/2007				
02/01/2007 09:01	AmtRe	c: #Con	tainers: 1				Scr:	Alpha:	**********	Beta:
6 JN6FA-1-AC-C	1004.00g,in	SRSG1317		1.0	24.7	100			01	
J7B080000-542-LCS - 		02/06/07,pd 09/11/06,r).9563				10	0643	120/	در/
				· 02	/ 19/2007-15:41: s	s 102/26/2007	10	0734	128/	70
								***************************************		·
02/01/2007 09:01	AmtRe	c: #Con	tainers: 1				Scr:	Alpha:		Beta:
Comments:	**************************************									
111 Glicata for Data										With
All Clients for Batch: 384868, Pacific Northwes	st National Laborat	ory Pacif	ic Northwest	t National	Lab, SA	, 57671				
JNPEH1AC-SAMP Constituent Li						_				
Sr-85 RDL:	pCi/L LCL:20	UCL:105	RPD:20	Sr-	90 R	DL:2	pCi/L	LCL:70	UCL:130	RPD:20
JN6FA1AA-BLK: Sr-85 RDL:	pCi/L LCL:20	UCL:105	RPD:20	Sr-	90 R	DL:2	pCi/L	LCL:	UCL:	RPD:
JN6FA1AC-LCS: Sr-85 RDL:	pCi/L LCL:20	UCL:105	RPD:20	Sr-	90 RI	DL:2	pCi/L	LCL:70	UCL:130	RPD:20
JNPEH1AC-SAMP Calc Info:										
Uncert Level (#s):: 2	Decay to SaDt:	Y Blk Subt	.: N Sci	i.Not.: Y	ODRs: 1	В				
•	Amt, fi - Final Amt, di - Dt, r - Reference Dt, ec-E	,		U		ISV - Insuffi	cient Volume	for Analysis		WO Cnt: 6 Prep_SamplePrep v4.8.2

2/16/2007 8:33:09 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory . CL Sr-90 Prp/SepRC5006(5071) Pipet #: Pacific Northwest National Lab TL Sr-85 by Nal and Sr-90 by GPC 7 day ingrowth Sep1 DT/Tm Tech: AnalyDueDate: 03/16/2007 5I CLIENT: HANFORD Batch: 7039542 WATER PM, Quote: SA, 57671 pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None All Tests: 7039542 CLTL, 7039543 BNTB, DRM Prep Tech: ,BockJ Work Order, Lot. Total Initial Aliquot QC Tracer Tracer Dish Ppt or Count Detector Count On I Off CR Analyst. Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Yield Size Geometry Time Min (24hr) Circle Init/Date 911 1 JNPEH-1-AC 1000.60q,in SRTB14500 LO 1702 2/19/0700 J7A310377-1-SAMP Ex:1/3/2006 01/31/2007 09:38 AmtRec: 20ML,3XLP,2X4LP #Containers: 6 Alpha: 3.34E-04 uCi/Sa Beta: 1.01E-03 uCi/Sa SRTB14501 1981 1702 1008.00a.in 2 JNXLR-1-AG 3" 02/12/07,pd 09/11/06,r J7B050132-2-SAMP 02/01/2007 09:01 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Alpha: -3.53E-04 uCi/Sa Scr: Beta: -1.35E-03 uCi/Sa SRTB14502 (174) 3 JNXLR-1-AM-X 993.40a.in 02/12/07,pd 09/11/06,r 8,0385 J7B050132-2-DUP 02/01/2007 09:01 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35E-03 uCi/Sa 4 JNXMG-1-AE 1006.50g,in SRTB14503 02/12/07,pd J7B050132-3-SAMP 02/01/2007 10:15 AmtRec: 20ML,500MLP,5XLP,3X4LP #Containers: 9 Scr: Alpha: 1.40E-03 uCi/Sa Beta: -3.04E-04 uCi/Sa Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 WO Cnt: 4 STL Richland Page 1 ISV - Insufficient Volume for Analysis Prep_SamplePrep v4.8.26 Richland Wa. pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

2/16/2007 8:33:1 	1 AM				=	eparatio	n/Analys	is		Balance	ld:11204827	33
AnalyDueDate:	03/16/2007			CL Sr-90 Prp TL Sr-85 by 51 CLIENT:	Nal and Sr-		day ingro	vth		Pipe Sep1 DT/Tm Te		
Batch: 7039542 SEQ Batch, Test: N		р	Ci/L							Sep2 DT/Tm Te	ch:	
OLG Baton, Test. IV	one									Prep Te	ch: ,BockJ	
Work Order, Lot, Sample DateTime	Total Amt/Unit		Aliquot t/Unit	QC Tracer Prep Date	Tracer Yield	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analy Init/Dat	
5 JN6FA-1-AA-B J7B080000-542-BLK		1000.	50g,in	SRTB14504 \\\ 02/12/07,pd 09/11/06,r \\\\	SUB			100	911	1815	2/19/	07010
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HEADERS HEADER			YTA170	1 0 QE	563							
02/01/2007 09:01		*******	Ex 1/3/2 AmtRec:	/=========	tainers: 1				Scr:	Alpha:		Beta:
Comments:)H (2.0	o 93 Z	- No - c	·1								
All Clients for 384868, Paci		t National	Laborato:	ry Pacif:	ic Northwes	st National	Lab, SA	, 57671				
JNPEH1AC-SAMP Co Sr-85 RD		st: pCi/L	LCL:20	UCL:105	RPD:20	Sr-	90 1	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
JN6FA1AA-BLK: Sr-85 RD	L:	pCi/L	LCL:20	UCL:105	RPD:20	sr-	90 1	RDL:2	pCi/L	LCL:	UCL:	RPD:
JN6FA1AC-LCS: Sr-85 RD	L:	pCi/L	LCL:20	UCL:105	RPD:20	Sr-	90 1	RDL:2	pCi/L	LCL:70	UCL:130	RPD:20
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STL Richland Richland Wa.	•		•	Piluted Amt, s1 - S richment Cell, ct-0		J		ISV - Insu	ıfficient Volume f	or Analysis	F	WO Cnt: 6 Prep_SamplePrep v4.8

HUW WITH FU 2/19/2007 11:24:21 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory . AW Gamma PrpRC5017 Pipet #: Pacific Northwest National Lab TA Gamma by HPGE **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: AnalyDueDate: 03/19/2007 Batch: 7039527 PM, Quote: SA, 57671 WATER Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,BockJ / APA Work Order, Lot. Total Initial Aliquot QC Tracer Dish Ppt or Count Count On I Off Detector CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Geometry Time Min ld (24hr) Circle Init/Date 1 JNXLR-1-AD 1956.20q.in 1023 J7B050132-2-SAMP AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35 E-03 uCi/Sa 2 JNXLR-1-AJ-X 1952.80g,in 1027 J7B050132-2-DUP 02/01/2007 09:01 AmtRec: 20ML,500MLP,5XLP,3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35E-03 uCi/Sa 3 JNXMG-1-AA 2007.70g,in 1028 J7B050132-3-SAMP 02/01/2007 10:15 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 9 Scr: Alpha: 1.40E-03 uCi/Sa Beta: -3.04E-04 uCi/Sa 4 JN6DR-1-AA-B 1995.00q,in 1029 J7B080000-527-BLK 02/01/2007 09:01 AmtRec: #Containers: 1 Scr: Alpha: Beta: 2001.50q,in QCAG1336 5 JN6DR-1-AC-C 1030 01/23/07,pd J7B080000-527-LCS 03/07/05.r #Containers: 1 02/01/2007 09:01 AmtRec: Scr: Alpha: Beta: Comments: PH (2.0 \$32-19-07

All Clients for Batch: 384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, JNXLR1AD-SAMP Constituent List: UCL: Co-60 RDL:0.00E+00 pCi/L LCL: RPD: Cs-134 RDL:0.00E+00 pCi/L LCL: UCL: RPD: WO Cnt: 5 Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1 STL Richland

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Richland Wa.

ISV - Insufficient Volume for Analysis

Prep_SamplePrep v4.8.26

2/28/2007 1:49:30 PM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory . BN I-129 Prp/SepRC5025 Pipet #: Pacific Northwest National Lab TB Gamma by LEPD **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: AnalyDueDate: 03/16/2007 Batch: 7039543 WATER pCi/L PM, Quote: SA, 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ManisD, BockJ Work Order, Lot, Total Initial Aliquot **QC** Tracer Dish Ppt or Count Detector Count On I Off CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size (24hr) Circle Init/Date Geometry Time Min ld 1 JNPEH-1-AA 3941.50q,in ITA6053 02/20/07 J7A310377-1-SAMP 01/31/2007 09:38 AmtRec: 20ML,3XLP,2X4LP #Containers: 6 Scr: Alpha: 3.34E-04 uCi/Sa Beta: 1.01E-03 uCi/Sa 2 JNXLQ-1-AA 3898.70q,in ITA6054 02/20/07 J7B050132-1-SAMP 02/01/2007 12:16 AmtRec: 20ML.2X4LP #Containers: 3 Scr: Alpha: -1.54E-03 uCi/Sa Beta: 1.17E-03 uCi/Sa 3 INXLR-1-AE 3908.20g,in ITA6055 02/20/07 J7B050132-2-SAMP 02/01/2007 09:01 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35E-03 uCi/Sa 4 JNXMG-1-AC 3925.80a.in ITA6056 02/20/07 J7B050132-3-SAMP 02/01/2007 10:15 AmtRec: 20ML,500MLP,5XLP,3X4LP #Containers: 9 Scr: Alpha: 1.40E-03 uCi/Sa Beta: -3.04E-04 uCi/Sa 5 JNXN2-1-AC 3904.60g,in ITA6057 02/20/07 J7B050154-3-SAMP 02/02/2007 09:53 AmtRec: 20ML, LP, 2X4LP #Containers: 4 Scr: Alpha: -5.79E-04 uCi/Sa Beta: 1.85E-03 uCi/Sa 6 JNXPG-1-AC ITA6058 3877.10q,in 02/20/07 J7B050158-1-SAMP 02/02/2007 08:46 AmtRec: 20ML,LP,2X4LP #Containers: 4 Scr: Alpha: 5.92E-04 uCi/Sa Beta: -1.12E-03 uCi/Sa 7 JNXPQ-1-AC 3851.30g,in ITA6059 02/20/07 J7B050158-2-SAMP

STL Richland Richland Wa.

02/02/2007 09:57

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

AmtRec: 20ML, LP, 2X4LP

Page 1

#Containers: 4

ISV - Insufficient Volume for Analysis

Scr:

Alpha: 6.75E-04 uCi/Sa

WO Cnt: 7

Beta: -6.07E-05 uCi/Sa

ICOC v4.8.26

2/28/2007 1:49:31 PM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory . BN I-129 Prp/SepRC5025 Pipet #: Pacific Northwest National Lab TB Gamma by LEPD **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: AnalyDueDate: 03/16/2007 Batch: 7039543 WATER pCi/L PM, Quote: SA, 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: ,BockJ Work Order, Lot. Total Initial Aliquot QC Tracer Dish Ppt or Count Detector Count On I Off CR Analyst, Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Size Time Min Geometry ld (24hr) Circle Init/Date 8 JNXPW-1-AC 3872.20g,in ITA6060 02/20/07 J7B050158-3-SAMP 02/02/2007 10:38 AmtRec: 20ML,LP,2X4LP #Containers: 4 Scr: Alpha: 8.94E-04 uCi/Sa Beta: 5.79E-04 uCi/Sa 9 JNXRL-1-AA 3821.60q,in ITA6061 02/20/07 J7B050162-1-SAMP 02/02/2007 11:52 AmtRec: 20ML.2X4LP #Containers: 3 Scr: Alpha: 1.58E-03 uCi/Sa Beta: 1.36F-04 uCi/Sa 10 JNXRL-1-AC-X 3770.70g,in ITA6062 02/20/07 J7B050162-1-DUP 02/02/2007 11:52 AmtRec: 20ML.2X4LP #Containers: 3 Scr: Alpha: 1.58E-03 uCi/Sa Beta: 1.36E-04 uCi/Sa 11 JNXR0-1-AC 3935.10q,in ITA6063 02/20/07 J7B050163-1-SAMP 02/02/2007 10:02 AmtRec: 20ML.LP.2X4LP #Containers: 4 Scr: Alpha: -1.56E-04 uCi/Sa Beta: 4.69E-05 uCi/Sa 12 JN6FC-1-AA-B 3997.00q.in ITA6064 02/20/07 J7B080000-543-BLK 02/02/2007 11:52 AmtRec: #Containers: 1 Scr: Alpha: Beta: 13 JN6FC-1-AC-C 3964.30g,in ISD0730 12/20/06 J7B080000-543-LCS 02/02/2007 11:52 AmtRec: #Containers: 1 Scr: Alpha: Beta: 39.4 14 JN6FC-2-AC-C 1214 3964.3 15D0730 7 R5 J7B080000-543-LCS 02/02/2007 11:52 AmtRec: #Containers: 1 Scr: Alpha: Beta:

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 14

ICOC v4.8.26

2/16/2007 9:21:41 AM Sample Preparation/Analysis Balance Id:1120482733 384868, Pacific Northwest National Laboratory, FP Tc-99 Prp/SepRC5065 Pipet #: Pacific Northwest National Lab S5 Technetium-99 by Liquid Scint AnalyDueDate: 03/19/2007 5I CLIENT: HANFORD Sep1 DT/Tm Tech: Batch: 7039528 WATER PM, Quote: SA, 57671 pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: .BockJ Work Order, Lot, Total Amt Total Initial Aliquot Adi Alia Amt QC Tracer Count Detector Count On I Off CR Analyst, Comments: Acidified/Unit Amt/Unit (Un-Acidified) Sample Date /Unit Prep Date Time Min ld (24hr) Circle Init/Date 1 JNV4G-1-AC 125.40q,in 125.40q (0) J7B020339-1-SAMP AmtRec: 20ML.500MLP.LP #Containers: 3 Scr: Alpha: -2.57E-04 uCi/Sa Beta: 1.55E-04 uCi/Sa 2 JNV4K-1-AA 124.50a.in 124.50a J7B020339-2-SAMP 02/01/2007 10:57 AmtRec: 20ML.500MLP #Containers: 2 Scr Beta: -8,40E-06 uCi/Sa Alpha: -7.68E-06 uCi/Sa 3 JNXLR-1-AH 125.30g,in 125.30a J7B050132-2-SAMP 02/01/2007 09:01 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 10 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35E-03 uCi/Sa 124.50g,in TCSG1769 4 JNXLR-1-AK-S 124.50a 01/24/07.pd J7B050132-2-MS 01/10/06.r AmtRec: 20ML,500MLP,5XLP,3X4LP #Containers: 10 02/01/2007 09:01 Scr: Alpha: -3.53E-04 uCi/Sa Beta: -1.35E-03 uCi/Sa 5 JNXMG-1-AF 125.70g,in 125.70g J7B050132-3-SAMP 02/01/2007 10:15 AmtRec: 20ML.500MLP.5XLP.3X4LP #Containers: 9 Scr: Alpha: 1.40E-03 uCi/Sa Beta: -3.04E-04 uCi/Sa 6 JNXMG-1-AG-X 125.40g,in 125.40g J7B050132-3-DUP 02/01/2007 10:15 AmtRec: 20ML,500MLP,5XLP,3X4LP #Containers: 9 Scr: Alpha: 1.40E-03 uCi/Sa Beta: -3.04E-04 uCi/Sa 7 JN6D2-1-AA-B 126.10g,in 126.10g J7B080000-528-BLK 02/01/2007 09:01 AmtRec: #Containers: 1 Scr: Alpha: Beta: WO Cnt: 7 Key: In - Initial Amt. fi - Final Amt. di - Diluted Amt. s1 - Sep1, s2 - Sep2 Page 1 STL Richland ISV - Insufficient Volume for Analysis pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added Prep SamplePrep v4.8.26 Richland Wa.

2/16/2007 9:21:4	16 AM		-	S	ampl	e Prepar	ation/Ar	nalys	sis		Balance	ld:1120482733	
AnalyDueDate:	03/19/2007			FP Tc-99 Pr S5 Technet 5I CLIENT:	ium-99	by Liquid S	Scint				Pipe Sep1 DT/Tm Te	et #: ech:	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Batch: 7039528		pCi	/L								Sep2 DT/Tm Te	ech:	
SEQ Batch, Test: N	lone	-									•	ech: ,BockJ	
								ЩШ				ech: ,bockJ	
Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/U		nitial Aliquot Amt/Unit		liq Amt Acidified)	QC Tracer Prep Date		Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
8 JN6D2-1-AC-C J7B080000-528-LC3			1	26.10g,in	126.10g		TCSE2071 01/24/07,pd 01/10/06,r		<u> </u>	<u>.</u>			
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All Clients for													
384868, Pac	ific Northwes	t National L	aborator	y Pacif	ic Nor	thwest Nat	ional Lab	, SA	, 57671				
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JN6D21AA-BLK: Tc-99 RI JN6D21AC-LCS:	DL:15	pCi/L	LCL:	UCL:	RP	D:							
	DL:15	pCi/L	LCL:70	UCL:130	RP	D:20							
Tc-99 RI	DL:15	pCi/L	LCL:	UCL:	RP	D:							
JNV4G1AC-SAMP Ca Uncert Leve JNXLR1AK-MS:		Decay to	SaDt: Y	Blk Subt	.: N	Sci.Not	.: Y	ODRs:	В				
	el (#s).: 2	Decay to	SaDt: Y	Blk Subt	: N	Sci.Not	Y	ODRs:	В				
Uncert Leve JN6D21AC-LCS:	el (#s).: 2	Decay to		Blk Subt		Sci.Not		ODRs:					
Uncert Leve JN6D21AD-IBLK:	el (#s).: 2	Decay to	SaDt: Y	Blk Subt	.: N	Sci.Not	Y	ODRs:	В				
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2/16/2007 9:21:5	50 AM			Sample Prepa	aration/Ana	lysis		Balance	ld:	
				rp/SepRC5065				Pipe	t #:	
AnalyDueDate:	03/19/2007			tium-99 by Liquid : HANFORD	Scint			Sep1 DT/Tm Te		
Batch: 7039528		pCi/L				· 1		Sep2 DT/Tm Te		
SEQ Batch, Test: N		po#_								
	1 _							Prep Te		· · · -
Work Order, Lot, Sample Date	Total Amt /Unit	Total Acidified/Unit	Initial Aliquot Amt/Unit	Adj Aliq Amt (Un-Acidified)	QC Tracer Prep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
					Approved	Ву			Date:	
STL Richland		mt, fi - Final Amt, d			Page 3	ISV - Ins	sufficient Volum	ne for Analysis		WO Cnt: 9
Richland Wa.	pd - Prep Dt	, r - Reference Dt, ec	c-Enrichment Cell, c	t-Cocktailed Added					Prep_	SamplePrep v4.8.2

2/8/2007 3:31:10 PM			Sample Pro	eparation/A	nalysis	V.	Balance Id:	12445
384868, Pacific Northw		-	Prp/SepRC5007					
Pacific Northwest Nation			tium by Liquid Scir	nt				
AnalyDueDate: 03/19			ENT: HANFORD				Sep1 DT/Tm Tech:	JUI-ORDING
Batch: 7039533 V SEQ Batch, Test: None	VATER	pCi/L	PM,	Quote: SA, 5	57671		Sep2 DT/Tm Tech:	
			1 1 2 2 1				Prep Tech:	
Work Order, Lot,	Total	Initial Aliquot	QC Tracer	Count	Detector	Count On	Off CR Analys	t, Comments:
Sample DateTime	Amt/Unit	Amt/Unit	Prep Date	Time Min	ld	(24hr) Circ		
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2 JNV4G-1-AA								
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Comments								
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02/02/2007 08:59		AmtRec: 20ML,LP	#Containers: 2			Scr:	Alpha:	Beta:
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2/02/2007 09:53		AmtRec: 20ML,LP,2X4	LP #Containers: 4			Scr:	Alpha:	Beta:
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ILIULILUUI 12.UI	WOWCONS, WATCH WALL A	AmtRec: 20ML,LP	#Containers: 2			Scr:	Alpha:	Beta:
STL Richland Key: In	n - Initial Amt, fi -	- Final Amt, di - Diluted Amt	, s1 - Sep1, s2 - Sep2	Page 1	ISV - I	nsufficient Volum	e for Analysis	WO Cnt: 7
		ference Dt, ec-Enrichment C		ŭ			•	ICOC v4.8

2/8/2007 3:31:12 PM Sample Preparation/Analysis 12445 Balance Id: 384868. Pacific Northwest National Laboratory AR H-3 Prp/SepRC5007 Pipet #: Pacific Northwest National Lab S6 Tritium by Liquid Scint Sep1 DT/Tm Tech: Jell o Ten 5I CLIENT: HANFORD AnalyDueDate: 03/19/2007 Batch: 7039533 WATER pCi/L PM, Quote: SA, 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: Work Order, Lot. Total Initial Aliquot QC Tracer Count Detector Count On | Off CR Analyst Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Time Min ld (24hr) Circle Init/Date 8 JNXPG-1-AA J7B050158-1-SAMP 02/02/2007 08:46 AmtRec: 20ML.LP.2X4LP #Containers: 4 Scr: Alpha: Beta: 9 JNXPQ-1-AA J7B050158-2-SAMP 02/02/2007 09:57 AmtRec: 20ML.LP.2X4LP #Containers: 4 Scr: Alpha: Beta: 10 JNXPW-1-AA J7B050158-3-SAMP 02/02/2007 10:38 AmtRec: 20ML.LP.2X4LP #Containers: 4 Scr: Alpha: Beta: 11 JNXR0-1-AA J7B050163-1-SAMP 02/02/2007 10:02 AmtRec: 20ML, LP, 2X4LP #Containers: 4. Scr: Alpha: Beta: 12 JNXR0-1-AD-X J7B050163-1-DUP 02/02/2007 10:02 AmtRec: 20ML, LP, 2X4LP #Containers: 4 Scr: Alpha: Beta: 13 JN6ED-1-AA-B J7B080000-533-BLK 02/02/2007 10:02 AmtRec: #Containers: 1 Scr: Alpha: Beta: 14 JN6ED-1-AC-C

J7B080000-533-LCS

02/02/2007 10:02

AmtRec:

STL Richland

Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

#Containers: 1

ISV - Insufficient Volume for Analysis

Scr:

Alpha:

WO Cnt: 14

ICOC v4.8.26

Beta:

Balance Id: 12445

Pipet #: ______

Sep1 DT/Tm Tech: 221-57om 2/8/2007 3:31:15 PM Sample Preparation/Analysis AR H-3 Prp/SepRC5007 S6 Tritium by Liquid Scint 5I CLIENT: HANFORD AnalyDueDate: 03/19/2007 Batch: 7039533 pCi/L Sep2 DT/Tm Tech: SEQ Batch, Test: None Prep Tech: Work Order, Lot, Total Initial Aliquot QC Tracer Count Detector Count On | Off CR Analyst. Comments: Sample DateTime Amt/Unit Amt/Unit Prep Date Time Min ld (24hr) Circle Init/Date 15 JN6ED-1-AD-BX J7B080000-533-MBLK 02/02/2007 10:02 AmtRec: Scr: #Containers: 1 Alpha: Beta: 16 JN6ED-1-AE-CM J7B080000-533-MLCS 02/02/2007 10:02 AmtRec: #Containers: 1 Scr: Alpha: Beta: 17 JN6ED-1-AF-BN J7B080000-533-IBLK 02/02/2007 10:02 AmtRec: #Containers: 1 Scr: Alpha: Beta: 18 JN6ED-1-AG-BN J7B080000-533-IBLK 02/02/2007 10:02 AmtRec: #Containers: 1 Scr: Alpha: Beta: Comments: All Clients for Batch: 384868, Pacific Northwest National Laboratory Pacific Northwest National Lab, SA, 57671 JNV3J1AA-SAMP Constituent List: H-3 RDL:400 pCi/L LCL:70 UCL:130 RPD:20 IN6ED1AA-BLK: H-3 RDL:400 pCi/L LCL: UCL: RPD: IN6ED1AC-LCS: H-3 RDL:400 pCi/L LCL:70 UCL:130 RPD:20 IN6ED1AD-MBLK: H-3RDL:400 pCi/L LCL: UCL: RPD: Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 WO Cnt: 18 STL Richland ISV - Insufficient Volume for Analysis Page 3

ICOC v4.8.26

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Richland Wa.

2/8/2007 3:31:21 PM

AnalyDueDate: 03/19/2007

RDL:400

Uncert Level (#s).: 2

JNV3J1AA-SAMP Calc Info:

Sample Preparation/Analysis

AR H-3 Prp/SepRC5007 S6 Tritium by Liquid Scint

RPD:

pCi/L

5I CLIENT: HANFORD

UCL:

Blk Subt.: N

Balance Id: 12445

Pipet #: ______

Sep1 DT/Tm Tech: 2 H-57sm

Batch: 7039533 SEQ Batch, Test: None

JN6ED1AG-IBLK:

H-3

pCi/L

LCL:

Decay to SaDt: Y

Sep2 DT/Tm Tech:

Pren Tech:

									riop reon.	
	order, Lot, DateTime	Total Amt/Unit	Initial Aliq Amt/Uni		C Tracer ep Date	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
JN6ED1AE-	MLCS:									
H-3	RDL:400	pCi/L	LCL:70	UCL:130	RPD:20					
JN6ED1AF-	-IBLK:									
H-3	RDL:400	pCi/L	LCL:	UCL:	RPD:					

Sci.Not.: Y

Page 4

ODRs: B

Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B JN6ED1AA-BLK: Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not .: Y ODRs: B JN6ED1AC-LCS: Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B JN6ED1AD-MBLK: Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B JN6ED1AE-MLCS: Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B JN6ED1AF-IBLK: Uncert Level (#s).: 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B JN6ED1AG-IBLK:

> Approved By Date:

Sample Preparation/Analysis 2/28/2007 4:28:00 PM Balance Id:1120482733 384868, Pacific Northwest National Laboratory, DH UNat Laser PrpRC5015 Pipet #: Pacific Northwest National Lab SS Total Uranium by KPA **5I CLIENT: HANFORD** Sep1 DT/Tm Tech: AnalyDueDate: 03/19/2007 Batch: 7039534 WATER ug/L PM, Quote: SA, 57671 Sep2 DT/Tm Tech: SEQ Batch, Test: None All Tests: 7039534 DHSS, 7039539 7YSR, Prep Tech: BockJ QC Tracer Work Order, Lot. Total Initial Aliquot Count Detector Count On | Off CR Analyst. Comments: Amt/Unit Amt/Unit Sample DateTime Prep Date Time Min ld (24hr) Circle Init/Date 1 JNVW3-1-AA 26.60g,in J7B020316-1-SAMP 02/01/2007 12:52 AmtRec: 20ML.500MLP #Containers: 2 Scr: Alpha: 3.37E-04 uCi/Sa 2.7E-01L Beta: -2.05E-04 uCi/Sa 2 JNVW3-1-AC-S UNSF3603 24.90g,in 02/05/07,pd J7B020316-1-MS 01/23/07,r 02/01/2007 12:52 AmtRec: 20ML.500MLP #Containers: 2 Scr: Alpha: 3.37E-04 uCi/Sa 2.7E-01L Beta: -2.05E-04 uCi/Sa 3 JNVW7-1-AC 25.40g,in J7B020316-2-SAMP AmtRec: 20ML,500MLP,LP #Containers: 3 Scr: Alpha: 4.98E-04 uCi/Sa Beta: -3.30E-04 uCi/Sa 4 JNVW7-1-AD-X 25.10q,in J7B020316-2-DUP 02/01/2007 12:04 AmtRec: 20ML.500MLP.LP #Containers: 3 Scr: Alpha: 4.98E-04 uCi/Sa Beta: -3.30E-04 uCi/Sa 5 JN6EX-1-AA-B 25.00g,in J7B080000-534-BLK 02/01/2007 12:52 AmtRec: #Containers: 1 Scr: Beta: Alpha: 6 JN6EX-1-AC-C UNSF3604 25.60q,in 02/05/07,pd J7B080000-534-LCS 01/23/07,r 02/01/2007 12:52 AmtRec: #Containers: 1 Scr: Alpha: Beta: 7 JN6EX-1-AD-C 25.90g,in UNSC1495 01/23/07.pd J7B080000-534-LCS 04/28/06.r 02/01/2007 12:52 AmtRec: #Containers: 1 Scr: Alpha: Beta:

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: **7**Prep_SamplePrep v4.8.26

2/28/2007 4:28:02 PM

Sample Preparation/Analysis

Balance Id:na,1120482733,1120482733,na

DH UNat_Laser PrpRC5015 SS Total Uranium by KPA

Pipet #	‡:		

Anal	vDue	Date:	03/19	9/2007
	Y LOUC	Duic.	0011	J/ E-00/

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 7039534 SEQ Batch, Test: None ug/L

Sep2 DT/Tm Tech:

100 March 100 Ma

Prep Tech: ,BockJ

Work Order, Lot,	Total	Initial Aliquot	QC Tracer	Count	Detector	Count On Off	CR Analyst,	Comments:
Sample DateTime	Amt/Unit	Amt/Unit	Prep Date	Time Min	ld	(24hr) Circle	Init/Date	

Comments:

All Clients 384868,	for Batch: Pacific Northwest	National	Laboratory	Pacific 1	Northwest Nation	al Lab, SA,	57671	
JNVW31AA-SAM	IP Constituent List	:						
Uranium JNVW31AC-MS	RDL:1.44E-01 Constituent List:	ug/L	LCL:	UCL:	RPD:			
JN6EX1AA-BLF	ζ:							
Uranium JN6EX1AC-LCS		ug/L	LCL:	UCL:	RPD:			
Uranium JN6EX1AD-LCS		ug/L	LCL:70	UCL:130	RPD:20			
Uranium	RDL:0.144343	ug/L	LCL:70	UCL:130	RPD:20			
JNVW31AA-SAM	MP Calc Info:							
Uncert JNVW31AC-MS	Level (#s).: 2 Calc Info:	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.:	Y ODRs: B		
	Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.:	Y ODRs: B	i	
JN6EX1AA-BLK		Dames	G-Dt . W	Dile Gules	N Gai Nat	W 000 - 0		
Uncert JN6EX1AC-LCS	Level (#s).: 2	Decay to	Saut: Y	Blk Subt.:	N Sci.Not.:	Y ODRs: B	•	
	Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.:	Y ODRs: B		
	Level (#s).: 2	Decay to	SaDt: Y	Blk Subt.:	N Sci.Not.:	Y ODRs: B		
						Approved By _		Date:

STL Richland Richland Wa.

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 7

Prep_SamplePrep v4.8.26

2/21/2007 2:45:13 PM

ICOC Fraction Transfer/Status Report ByDate: 2/21/2006, 2/26/2007, Batch: '7039545', User: *ALL Order By DateTimeAccepting

Q Batch Work Ord	CurStat	us A		Comments	
7039545	NOSCISCIO PRO ASSOCIATIONES				
AC (CalcC	BockJ	2/16/2007 10:0	8:52	
SC		andersonp	IsBatched	2/8/2007 3:38:22 PM	ICOC_RADCALC v4.8.26
SC		BockJ	InPrep	2/16/2007 10:08:52 AM	RICH-RC-5016 Revision 6
SC		BockJ	Prep1C	2/16/2007 10:14:32 AM	RICH-RC-5016 REVISION 6
SC		FABREM	Sep1C	2/19/2007 7:20:21 PM	RICH-RC-5010 REVISION 4
SC SC		FABREM	Sep2C	2/20/2007 4:08:13 PM	RICH-RC-5039 REV 5
SC		DAWKINSO	InCnt1	2/20/2007 5:35:14 PM	RICH-RD-0008 REVISION 4
SC .		DAWKINSO	CalcC	2/20/2007 10:14:07 PM	RICH-RD-0008 REVISION 4
IC		BockJ	2/16/2007 10:14	4:32	
4C		FABREM	2/19/2007 7:20	:21 PM	
4 <i>C</i>		FABREM	2/20/2007 4:08	:13 PM	
4 <i>C</i>		DAWKINSO	2/20/2007 5:35	:14 PM	
4 <i>C</i>		DAWKINSO	2/20/2007 10:1	4:07	
AC		DAWKINSO	2/20/2007 10:1	4:07	

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

2/27/2007 1:30:50 PM

ICOC Fraction Transfer/Status Report ByDate: 2/27/2006, 3/4/2007, Batch: '7039539', User: *ALL Order By DateTimeAccepting

Q Batch Wor	k Ord CurStat	tus A	ccepting		Comments
7039539	I II managamanan ing dan kananan ing dan kanan				
4C	CalcC	BockJ	2/20/2007 12:4	2:22	
SC		andersonp	IsBatched	2/8/2007 3:38:22 PM	ICOC RADCALC v4.8.26
SC		BockJ	InPrep	2/20/2007 12:42:22 PM	RICH-RC-5016 Revision 6
SC .		BockJ	Prep1C	2/20/2007 12:47:56 PM	RICH-RC-5016 REVISION 6
SC		HarveyK	InPrep2	2/20/2007 2:19:07 PM	RICH-RC-5086 REV2
SC		HarveyK	Sep1C	2/23/2007 8:17:34 AM	RICH-RC-5067 REV6
SC		FABREM	Sep2C	2/23/2007 4:52:53 PM	RICH-RC-5039 REV 5
SC		DAWKINSO	InCnt1	2/23/2007 6:10:46 PM	RICH-RD-0008 REVISION 4
SC		BlackCL	CalcC	2/26/2007 7:25:21 AM	RICH-RD-0008 REVISION 4
IC		BockJ	2/20/2007 12:4	7:56	
IC		HarveyK	2/20/2007 2:19	:07 PM	
IC		HarveyK	2/23/2007 8:17	:34	
AC		FABREM	2/23/2007 4:52	:53 PM	
AC .		DAWKINSO	2/23/2007 6:10	:46 PM	
AC		BlackCL	2/26/2007 7:25	:21	

AC: Accepting 1:ntry; SC: Status Change

STL Richland Richland Wa

Grp Rec Cnt: 7 ICOCFractions v4.8.26 2/27/2007 11:40:34 AM

ICOC Fraction Transfer/Status Report ByDate: 2/27/2006, 3/4/2007, Batch: '7039532', User: *ALL Order By DateTimeAccepting

Batch Worl	Ord CurStat	us A	ccepting		Comments
039532	(U				
C	CalcC	BockJ	2/19/2007 8:40	:58	
C		andersonp	IsBatched	2/8/2007 3:32:34 PM	ICOC_RADCALC v4.8.26
C		BockJ	InPrep	2/19/2007 8:40:58 AM	RICH-RC-5014 Revision 6
C		BockJ	Prep1C	2/19/2007 8:45:54 AM	RICH-RC-5014 REVISION 6
С		AshworthA	InPrep2	2/26/2007 9:31:39 AM	RICH-RC-5014 REVISION 6
С		AshworthA	Prep2C	2/26/2007 7:20:13 PM	RICH-RC-5014 REVISION 6
C ,		BlackCL	CalcC	2/27/2007 5:36:25 AM	RICH-RD-0003 REVISION 4
С		BockJ	2/19/2007 8:45	:54	
С		AshworthA	2/26/2007 9:31	:39	
С		AshworthA	2/26/2007 7:20	:13 PM	
С		BlackCL	2/27/2007 5:36	:25	

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AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt: 5 ICOCFractions v4.8.26 2/27/2007 11:05:38 AM

ICOC Fraction Transfer/Status Report ByDate: 2/27/2006, 3/4/2007, Batch: '7039531', User: *ALL Order By DateTimeAccepting

CurStatus	Accepting		Comments
alcC Bool	J 2/19/2007 8	:36:20	
ande	rsonp IsBatched	2/8/2007 3:32:34 PM	ICOC RADCALC v4.8.26
Bock	J InPrep	2/19/2007 8:36:20 AM	RICH-RC-5014 Revision 6
Bock	J Prep1C	2/19/2007 8:40:40 AM	RICH-RC-5014 REVISION 6
Ashv	orthA InPrep2	2/26/2007 9:31:31 AM	RICH-RC-5014 REVISION 6
Ashv	orthA Prep2C	2/26/2007 7:20:22 PM	RICH-RC-5014 REVISION 6
DAW	KINSO CalcC	2/26/2007 10:36:49 PM	RICH-RD-0003 REVISION 4
Bocl	J 2/19/2007 8	:40:40	
Ash	vorthA 2/26/2007 9	:31:31	
Ash	worthA 2/26/2007 7	:20:22 PM	
DAW	KINSO 2/26/2007 1	0:36:49	
	ande Bock Bock Ashw Ashw Bock Ashw	alcC BockJ 2/19/2007 8 andersonp IsBatched BockJ InPrep BockJ Prep1C AshworthA InPrep2 AshworthA Prep2C DAWKINSO CalcC BockJ 2/19/2007 8 AshworthA 2/26/2007 9 AshworthA 2/26/2007 7	alcC BockJ 2/19/2007 8:36:20 andersonp IsBatched 2/8/2007 3:32:34 PM BockJ InPrep 2/19/2007 8:36:20 AM BockJ Prep1C 2/19/2007 8:40:40 AM AshworthA InPrep2 2/26/2007 9:31:31 AM AshworthA Prep2C 2/26/2007 7:20:22 PM DAWKINSO CalcC 2/26/2007 10:36:49 PM BockJ 2/19/2007 8:40:40 AshworthA 2/26/2007 9:31:31 AshworthA 2/26/2007 7:20:22 PM

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AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

2/28/2007 9:46:02 AM

ICOC Fraction Transfer/Status Report ByDate: 2/28/2006, 3/5/2007, Batch: '7039542', User: *ALL Order By DateTimeAccepting

Q Batch Wo	rk Ord CurStat	tus A	ccepting		Comments
7039542					
4C	CalcC	BockJ	2/16/2007 8:23	3:11	
SC		andersonp	IsBatched	2/8/2007 3:38:22 PM	ICOC_RADCALC v4.8.26
SC		BockJ	InPrep	2/16/2007 8:23:11 AM	RICH-RC-5016 Revision 6
SC		BockJ	Prep1C	2/16/2007 8:36:48 AM	RICH-RC-5016 REVISION 6
SC		ManisD	InSep1	2/16/2007 9:13:25 AM	RICH-RC-5006 REV 6
SC		ManisD	Sep1C	2/19/2007 4:12:09 PM	RICH-RC-5006 REV 6
SC		DAWKINSO	InCnt1	2/19/2007 4:32:57 PM	RICH-RD-0007 REVISION 5
SC		DAWKINSO	Cnt1C	2/19/2007 8:52:27 PM	RICH-RD-0007 REVISION 5
SC		ManisD	Sep2C	2/26/2007 3:42:34 PM	RICH-RC-5071 REV 4
SC		DAWKINSO	InCnt2	2/26/2007 4:47:42 PM	RICH-RD-0003 REVISION 4
SC		BlackCL	CalcC	2/28/2007 7:53:38 AM	RICH-RD-0003 REVISION 4
IC		BockJ	2/16/2007 8:36	5:48	
AC .		ManisD	2/16/2007 9:13	3:25	
4 <i>C</i>		DAWKINSO	2/19/2007 4:32	2:57 PM	
4 <i>C</i>		DAWKINSO	2/19/2007 8:52	2:27 PM	
4 <i>C</i>		ManisD	2/26/2007 3:42	2:34 PM	
4 <i>C</i>		DAWKINSO	2/26/2007 4:47	7:42 PM	
4 <i>C</i>		BlackCL	2/28/2007 7:53	3:38	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt:8 ICOCFractions v4.8.26 2/22/2007 1:18:32 PM

ICOC Fraction Transfer/Status Report ByDate: 2/22/2006, 2/27/2007, Batch: '7039527', User: *ALL Order By DateTimeAccepting

Work Ord	CurStatus		Accepting		Comments
<u> </u>					
	CalcC	BockJ	2/19/2007 11:1:	3:35	
		andersonp	IsBatched	2/8/2007 3:32:34 PM	ICOC_RADCALC v4.8.26
		BockJ	InPrep	2/19/2007 11:13:35 AM	RICH-RC-5014 Revision 6
		BockJ	Prep1C	2/19/2007 11:24:27 AM	RICH-RC-5017 REVISION 5
		AshworthA	InPrep2	2/20/2007 11:18:37 AM	RICH-RC-5017 REVISION 4
		AshworthA	Prep2C	2/21/2007 6:41:53 PM	RICH-RC-5017 REVISION 4
		DAWKINSO	InCnt1	2/21/2007 8:40:42 PM	RICH-RD-0007 REVISION 5
		StringerR	CalcC	2/22/2007 10:47:36 AM	RICH-RD-0007 REVISION 5
		BockJ	2/19/2007 11:24	4:27	
		AshworthA	2/20/2007 11:18	8:37	
		AshworthA	2/21/2007 6:41:	:53 PM	
		DAWKINSO	2/21/2007 8:40:	42 PM	
		StringerR	2/22/2007 10:47	7:36	
		Work Ord CurStatus CalcC	CalcC BockJ andersonp BockJ BockJ AshworthA AshworthA DAWKINSO StringerR BockJ AshworthA AshworthA DAWKINSO	CalcC BockJ 2/19/2007 11:1 andersonp IsBatched BockJ InPrep BockJ Prep1C AshworthA InPrep2 AshworthA Prep2C DAWKINSO InCnt1 StringerR CalcC BockJ 2/19/2007 11:2 AshworthA 2/20/2007 11:1 AshworthA 2/21/2007 6:41: DAWKINSO 2/21/2007 8:40:	CalcC BockJ 2/19/2007 11:13:35 andersonp IsBatched 2/8/2007 3:32:34 PM BockJ InPrep 2/19/2007 11:13:35 AM BockJ Prep1C 2/19/2007 11:24:27 AM AshworthA InPrep2 2/20/2007 11:18:37 AM AshworthA Prep2C 2/21/2007 6:41:53 PM DAWKINSO InCnt1 2/21/2007 8:40:42 PM StringerR CalcC 2/22/2007 10:47:36 AM BockJ 2/19/2007 11:24:27 AshworthA 2/20/2007 11:18:37 AshworthA 2/21/2007 6:41:53 PM DAWKINSO 2/21/2007 8:40:42 PM

Page 1

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

3/6/2007 10:04:05 AM

ICOC Fraction Transfer/Status Report ByDate: 3/6/2006, 3/11/2007, Batch: '7039543', User: *ALL Order By DateTimeAccepting

Q Batch Wo	ork Ord CurStat	tus A	Accepting		Comments
039543					
1 <i>C</i>	CalcC	BockJ	2/23/2007 7:03	:35	
SC .		andersonp	IsBatched	2/8/2007 3:38:22 PM	ICOC_RADCALC v4.8.26
C		BockJ	InPrep	2/23/2007 7:03:35 AM	RICH-RC-5017 Revision 5
C		BockJ	Prep1C	2/23/2007 7:54:22 AM	RICH-RC-5017 REVISION 5
C C		BostedD	InSep1	2/23/2007 10:55:04 AM	RICHRC5025 REV3
SC .		BostedD	Sep1C	2/26/2007 12:16:02 PM	RICHRC5025 REV3
SC		BlackCL	InCnt1	2/26/2007 12:33:48 PM	RICH-RD-0007 REVISION 5
C C		BlackCL	CalcC	2/27/2007 7:38:11 AM	RICH-RD-0007 REVISION 5
iC		StringerR	InCnt1	3/1/2007 10:29:59 AM	RICH-RD-0007 REVISION 5
iC .		StringerR	CalcC	3/1/2007 12:43:21 PM	RICH-RD-0007 REVISION 5
C		BockJ	2/23/2007 7:54	:22	
C		BostedD	2/23/2007 10:5	5:04	
C		BostedD	2/26/2007 12:1	6:02	
.C		BlackCL	2/26/2007 12:3	3:48	
C		BlackCL	2/27/2007 7:38	:11	
С		StringerR	3/1/2007 10:29	:59	
C		StringerR	3/1/2007 12:43	:21 PM	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

2/20/2007 4:06:21 PM

ICOC Fraction Transfer/Status Report ByDate: 2/20/2006, 2/25/2007, Batch: '7039528', User: *ALL Order By DateTimeAccepting

Work Ord	CurStatus	A	ccepting		Comments
¥	···				
	CalcC	BockJ	2/16/2007 9:12:	00	
		andersonp	IsBatched	2/8/2007 3:32:34 PM	ICOC_RADCALC v4.8.26
		BockJ	InPrep	2/16/2007 9:12:00 AM	RICH-RC-5016 Revision 6
		BockJ	Prep1C	2/16/2007 9:21:58 AM	RICH-RC-5016 REVISION 6
		FABREM	Sep1C	2/19/2007 7:15:24 PM	RICH-RC-5065 REVISION 5
		DAWKINSO	InCnt1	2/19/2007 7:27:39 PM	RICH-RD-0001 REVISION 3
		BlackCL	CalcC	2/20/2007 12:18:25 PM	RICH-RD-0001 REVISION 3
		BockJ	2/16/2007 9:21:	58	
		BockJ	2/16/2007 9:26:	41	
:		FABREM	2/19/2007 7:15:	24 PM	
		DAWKINSO	2/19/2007 7:27:	39 PM	
		BlackCL	2/20/2007 12:18	3:25	
	¥	Work Ord CurStatus CalcC	CalcC BockJ andersonp BockJ BockJ FABREM DAWKINSO BlackCL BockJ BockJ FABREM DAWKINSO	CalcC BockJ 2/16/2007 9:12: andersonp IsBatched BockJ InPrep BockJ Prep1C FABREM Sep1C DAWKINSO InCnt1 BlackCL CalcC BockJ 2/16/2007 9:21: BockJ 2/16/2007 9:26: FABREM 2/19/2007 7:15: DAWKINSO 2/19/2007 7:27:	CalcC BockJ 2/16/2007 9:12:00 andersonp IsBatched 2/8/2007 3:32:34 PM BockJ InPrep 2/16/2007 9:12:00 AM BockJ Prep1C 2/16/2007 9:21:58 AM FABREM Sep1C 2/19/2007 7:15:24 PM DAWKINSO InCnt1 2/19/2007 7:27:39 PM BlackCL CalcC 2/20/2007 12:18:25 PM BockJ 2/16/2007 9:21:58 BockJ 2/16/2007 9:26:41 FABREM 2/19/2007 7:15:24 PM DAWKINSO 2/19/2007 7:27:39 PM

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt: 6 ICOCFractions v4.8.26 2/23/2007 11:31:27 AM

ICOC Fraction Transfer/Status Report ByDate: 2/23/2006, 2/28/2007, Batch: '7039533', User: *ALL Order By DateTimeAccepting

Batch Work	c Ord CurStat	us Ad	ccepting		Comments
039533	1000 p. 1. 1. 1. 100 flat - 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.				
C	CalcC	McDowellD	2/21/2007 8:19	:32	
C		andersonp	IsBatched	2/8/2007 3:32:34 PM	ICOC_RADCALC v4.8.26
C		McDowellD	InSep1	2/21/2007 8:19:32 AM	RICH-RC-5007 REVISION 6
C		McDowellD	Sep1C	2/21/2007 2:34:14 PM	RICH-RC-5007 REVISION 6
C		StringerR	InCnt1	2/21/2007 2:45:30 PM	RICH-RD-0001 REVISION 3
C		BlackCL	CalcC	2/23/2007 6:15:18 AM	RICH-RD-0001 REVISION 3
C		McDowellD	2/21/2007 2:34	:14 PM	
C		StringerR	2/21/2007 2:45	:30 PM	
С		BlackCL	2/23/2007 6:15	:18	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

3/1/2007 8:37:54 AM

ICOC Fraction Transfer/Status Report ByDate: 3/1/2006, 3/6/2007, Batch: '7039534', User: *ALL Order By DateTimeAccepting

Q Batch Wo	ork Ord C	urStatus	Accepting		Comments
7039534					
4C	Cn	t1C BockJ	2/20/2007 10:5	0:40	
SC		andersonp	IsBatched	2/8/2007 3:38:22 PM	ICOC RADCALC v4.8.26
SC		BockJ	InPrep	2/20/2007 10:50:40 AM	RICH-RC-5016 Revision 6
SC		BockJ	Prep1C	2/20/2007 10:58:16 AM	RICH-RC-5015 REVISION 4
SC	*	AshworthA	InPrep2	2/26/2007 10:19:13 AM	RICH-RC-5015 REVISION 4
SC		AshworthA	Prep2C	2/27/2007 1:40:57 PM	RICH-RC-5015 REVISION 4
SC		NelsonT	Cnt1C	2/28/2007 4:58:10 PM	RICH-RC-5058 REV 7
IC .		BockJ	2/20/2007 10:5	8:16	
AC .	AshworthA		2/26/2007 10:19:13		
AC .		AshworthA	2/27/2007 1:40	:57 PM	
AC .		NelsonT	2/28/2007 4:58	:10 PM	

AC: Accepting Entry; SC: Status Change

STL Richland Richland Wa.

Grp Rec Cnt: 5 ICOCFractions v4.8.26